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Does American Education Have an Adequate Program?

The schools are on their way but where are they going? is the thesis of this reply to Prof. M. V. O'Shea's article, "In Defense of Modern Education"

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A CERTAIN well known poet once expressed the wish that some power would give us the gift to see ourselves as others see us. I used to hold the innocent belief that such a gift was greatly to be desired. Lately, however, I came upon an article in The NATION'S SCHOOLS in which Prof. M. V. O'Shea does me the honor of discussing my educational views.[1]

Reading this article is perhaps not exactly equivalent to seeing myself as others see me, but at all events it enables me to see myself as I am seen by the genial editor of this magazine. Since then I have been wondering whether the poet just alluded to was not a bit hasty. Would it really be a boon to see ourselves as others see us? If this look which was granted to me is an example of such seeing, let us go no further with it. One look enough for me. Instead of bewailing our limitations in this matter, let us rather have faith that a merciful Providence has arranged everything for the best.

To those who still share the poet's wish, I should like to give the warning that seeing ourselves as others see us is very much like looking into a curved mirror. In my own case the shock was considerably mitigated by the matchless urbanity of the gentleman who arranged the mirror for me to see. But even so, it was still a shock, for the urbanity did not take the curvature out of the glass. There were certain of my features that I could recognize, but this verisimilitude only served to make the distortion a more weird and unearthly thing. It is likely that I overrate the symmetry of my appearance, but the reader will, I trust, give sympathetic understanding to my impulse to correct the more obvious distortions so that I may look a little more like a human being.

Let us begin with the lineaments that I recognize as my own. Professor O'Shea reports me as holding the view that "American education is confusing because it is impossible to tell what its objectives are. It is corrupted by numberless fads and panaceas. It assumes to be scientific but it is really 'pathetically conventional.' It scorns the education of an earlier day, but to a 'casual observer' it is impossible to detect any rational plan for the future."—Yes, that's me! The picture—if I may shift from mirrors to portraiture—might have some softer colors in it, but we'll let that pass. For an offhand sketch it is not so bad. What I am reported to have said is substantially what I did say and what I still believe.

So far, then, there is no quarrel. Professor O'Shea does not like the picture, but that is no

[1] O'Shea, M. V., In Defense of Modern Education, The NATION'S SCHOOLS, October, 1930.

ground for quarrel either. I can understand him on that point, even if I cannot sympathize with him. If he would only state what he thinks is the matter with it, we could enter into academic debate in a manner befitting two sedate professors of education. But this is not the procedure adopted by Professor O'Shea. His method of attack is to add new lines to the picture in order to make it a horrible example and a warning to our youth. These lines are as follows:

1. The subject of the sketch taught philosophy for a long time; he was "steeped in metaphysics" and therefore completely out of touch with the concrete, experimental attitude of present day education.

2. The aforesaid subject is an example of arrested mental development, never having got beyond the psychology that was taught to him in his early youth. "One must suppose that he has no confidence in any psychology except the introspective type, which has been abandoned by practically every American educator who is determining educational policies."

3. A person holding such disrespectful views of American education can be accounted for only on the assumption that he is a lost soul. His educational beliefs, if they were brought into the light of day, would, without doubt, be found to include items of this kind: learning to spell twelve or fifteen thousand words, regardless of utility; memorizing ten or twelve thousand words for the sake of mental discipline; learning technicalities in grammar, rules and formulas in arithmetic and algebra; spending years on foreign languages that are rarely used after graduation.

Making the Patient Like the Operation

In this summary I have made no attempt to rival the deftness of Professor O'Shea's presentation. His mastery of style is like the expertness of the highly trained hospital nurse, who makes the patient feel that it is almost a privilege to undergo a major operation. But this summary is, in substance, his argument, and this—again substantially—is "all there is to it." It illustrates the danger of religious zeal. Having impiously challenged the gods of American education, I am forthwith marked for slaughter. The real question at issue is cavalierly brushed aside.

For the sake of the argument let me grant—till the next paragraph—that all the charges brought against me are true; that my early education and career were misdirected, that my psychology is completely out of date, that my educational beliefs originated in the Dark Ages—what does all this have to do with the subject in hand? Does that prove that American education is not infested with fads and panaceas, that it is not really conventional, that it does have a respectable program? The logic of this reasoning is too deep for me. To my eye, this procedure is remarkably like that of a lawyer who handed his colleague in court a note inscribed: "No case; abuse the plaintiff's attorney."

An Academic Bedtime Story

Whether the "abuse" in this case is justified cannot be a matter of great public interest, but I may be permitted to say a brief word in my own behalf. The first point relates to my misguided past. I was "steeped in metaphysics." As to this charge I can offer no defense. I was considerably steeped; at all events, if I did not achieve complete saturation, it was not for want of trying. But even so, I can point to the fact that I did finally leave philosophy in order to go into education. This might be construed as a sign of intelligence. As to the second point, about two years ago I published a book which devotes much space to the proof that introspective psychology is all wrong and harmful for education. On the third point—formal discipline—I can refer to a chapter in an earlier book of mine and to one or two magazine articles, which were written for the laudable purpose of protecting the public against the pernicious doctrine of formal discipline. It all goes to show that you can't tell what a man believes about formal discipline just by his looks.

Now that this is out of the way, we may return to the main issue—whether American education has an adequate program. With respect to this matter, Professor O'Shea is content to give us a confident assurance that it has. "The goal set by the educational reformer which is now guiding educational effort and framing educational policies, is so to train the child that he can understand the physical and social world in which he must live and can adjust himself thereto in order to reduce discomfort and to increase harmony and well-being. . . . It is the duty of the school to take account of changes in the world and to train the rising generations to understand and adjust themselves thereto effectively and harmoniously."

This is Professor O'Shea's conception of an educational program, and it is a lovely example of the kind of thing that I had in mind when I complained that American education is making no serious effort to formulate its aims. Professor O'Shea tells us, in effect, that the goal in education is to understand the physical and social world so as to secure well-being through harmonious and effective adjustment. Exactly! As far as I can recall, every educational program that the ingenuity of man has been able to devise has proved

to be in complete accord with this noble sentiment. When W. J. Bryan and Clarence Darrow clashed in the courts of Tennessee over the teaching of evolution in the public schools of the state, each was deeply concerned that the children of the nation should understand the physical and social world so as to secure well-being through harmonious and effective adjustment.

We can all subscribe to a "program" of this kind, because we are left perfectly free to make it mean anything we wish. For commencement addresses and the like such language may be appropriate enough. For the person who is anxious to clarify his thinking about education the use of such expressions means that counsel is darkened with words.

Here, then, we have the question at issue: Is or is not such a formulation of aims as was quoted a moment ago an adequate program for education? I feel bound to insist that it is to be regarded not as a program but rather as a kind of academic bedtime story. To Professor O'Shea, on the other hand, this formulation is clear enough for any sensible person whose countenance is not sicklied o'er with the pale cast of metaphysical thought. "To most educators, at any rate," so he tells us, "the objective of modern education is definite enough to offer guidance and inspire confidence; but to the philosophic, metaphysical mind the educational program may appear confused, full of fads and fancies and drifting aimlessly and helplessly with the tide."

One of Professor O'Shea's grievances against me is that while I criticize so freely I do not "point the way out." It is chiefly my inadequacy at this point that leads him to suspect me of secret loyalty to outworn creeds. It might have occurred to him that my hesitation was due to the complexity of the problem. What is the way out? What kind of understanding of the physical and social world must we seek so as to secure well-being, through harmonious and effective adjustment?

Meeting the Issue

This question is perhaps too far-reaching in its bearings to be answered adequately by any simple formula, and too shifting in content to make the solution reached by one generation adequate to the needs of the next. Yet the question cannot be evaded; and I shall try to indicate briefly what seems to me like a suitable approach to it. What is our particular situation with reference to this matter of securing harmonious and effective adjustment?

Let us take as our point of departure our present social maladjustment. We are having a period of depression in which overproduction and want are strangely mixed. Our social philosophy seems to have broken down. We have gone on the theory that unlimited individual initiative and free competition would, in the end, be conducive to the greatest social good. Now we are not so sure. Unemployment, in this age of machinery, cannot be left to the operation of natural law; production must be regulated, and care must be taken that the methods of quantity production do not result in reducing a large part of the population to the status of robots, who have lost their intelligence in the process of acquiring a set of muscular habits. These are new problems, and in order to meet them it will be necessary to make extensive revision in the social philosophy we have inherited from the past. This problem of clarifying and reinterpreting our social philosophy certainly has a bearing on the work of our schools.

Complacency—The Besetting Sin

To put it differently and more generally, the main course of civilization shows us the gradual emergence of the common man. This emergence has required continuous and often violent readjustment during the course of time, with reference to such matters as the doctrine of divine right, religious liberty, public education for the masses, the regulation of corporate enterprise, of hygienic working conditions and of hours of labor, and many others. It all seems to point to an ideal which would make the social order more or less analogous to that of a well organized school. In such a school we are not greatly concerned whether the products of the workshop have a market value; whether the poems that are written and the pictures that are painted will be bought by the magazines. Our first concern is with the intellectual, social and esthetic development of the pupils.

Similarly, an ideal social order that would really give expression to this democratic trend would be an organization in which such an enrichment of life would be the primary consideration. The idea of private profit would be much less conspicuous, our judgments of institutions and personal conduct would be determined by this standard and our religious aspirations would be diverted from the world beyond to a kingdom of heaven on earth. In other words, this tendency carries implications that have a bearing on our most fundamental beliefs and on our whole attitude towards life.

My purpose in introducing these reflections is not to recommend this ideal to anybody. I am simply saying that there is such a trend or tendency and that intelligent persons must come to terms with it. All of us, I take it, have some sympathy with what we may call the democratic ideal. This ideal is intimately involved in our present

social situation of storm and stress. Our schools are not the proper agency for evolving a public policy to meet the present emergency. But they are, I submit, the proper agency for enabling pupils, as they grow up, to envisage the outstanding issue of our present civilization and to put them in the way of achieving a reflective and coherent attitude towards it, so that they may order their own lives and conduct intelligently.

Educational Program Means Social Program

Our present civilization centers on a conflict of ideals. The ideal of democracy is a challenge to what has gone before. To understand this conflict and to reach a conclusion regarding it comes somewhere near to fulfilling the requirements of a general education in this present day and age. An aim of this kind gives a definite meaning to the purpose to understand the physical and social world so as to secure well-being through harmonious and effective adjustment. It provides, as I believe, a principle for guidance in curriculum construction and in methods of teaching.

This subject is, of course, too large for elaboration in this connection. I have indulged in this brief discussion of it chiefly to assure my esteemed critic that my heart is in the right place. I want to be as helpful and constructive as my ability and my training in metaphysics will permit. Incidentally, I do not mean to assert that our schools at present do nothing towards preparing pupils for problems of this kind. God moves in mysterious ways His wonders to perform. What I wish to emphasize is that educational program means social program and that our schools would be more effective as agencies for progress if this problem of citizenship were made a matter of conscious and direct approach.

No reasonably well informed person would deny that modern educational movements have been productive of much good. For the achievements of those reformers who have set out to transform the schoolroom into a place that is conducive to wide and effective learning, I have nothing but admiration. That present day education stands much closer to the realities of life than was the case in the past I grant cheerfully and without reservation. With the spirit that prompted my distinguished critic to speak in defense of modern education I have every sympathy. There is no danger whatever that the standards and procedures of the past will ever be reinstated in our schools. Our chief danger at present lies in the complacent notion that we are educating properly for the future even if we do not seriously consider what kind of a future we would like to have when it finally arrives.

Men Are Preferred in Junior High School Management

Men are found to be more desirable than women in the management of junior high schools, and at present overwhelmingly outnumber the women in this position, a study recently published by the Office of Education discloses.

At present 86.8 per cent of the principalships of the junior high schools are held by men. A tabulation reveals that 52.8 per cent of the city school superintendents prefer a man for this job.

The majority of men principals, 92.7 per cent, are married, while the majority of women principals, 93.1 per cent, are unmarried. Almost 80 per cent of the superintendents reporting prefer married men for this position.

In seeking the position of principalship, it was found that 30.5 per cent of the principals found it desirable because of a higher salary. There were 25.6 per cent who found in it promotion. The belief that it afforded more interesting work attracted 20 per cent while 19.5 per cent saw in it opportunity for leadership and administration.

An inquiry revealed that almost 76 per cent of the principals are determined to remain in educational work.

Graduation from a four-year institution of collegiate rank is regarded as essential training for junior high principalship. The master's degree is indicated as desirable.

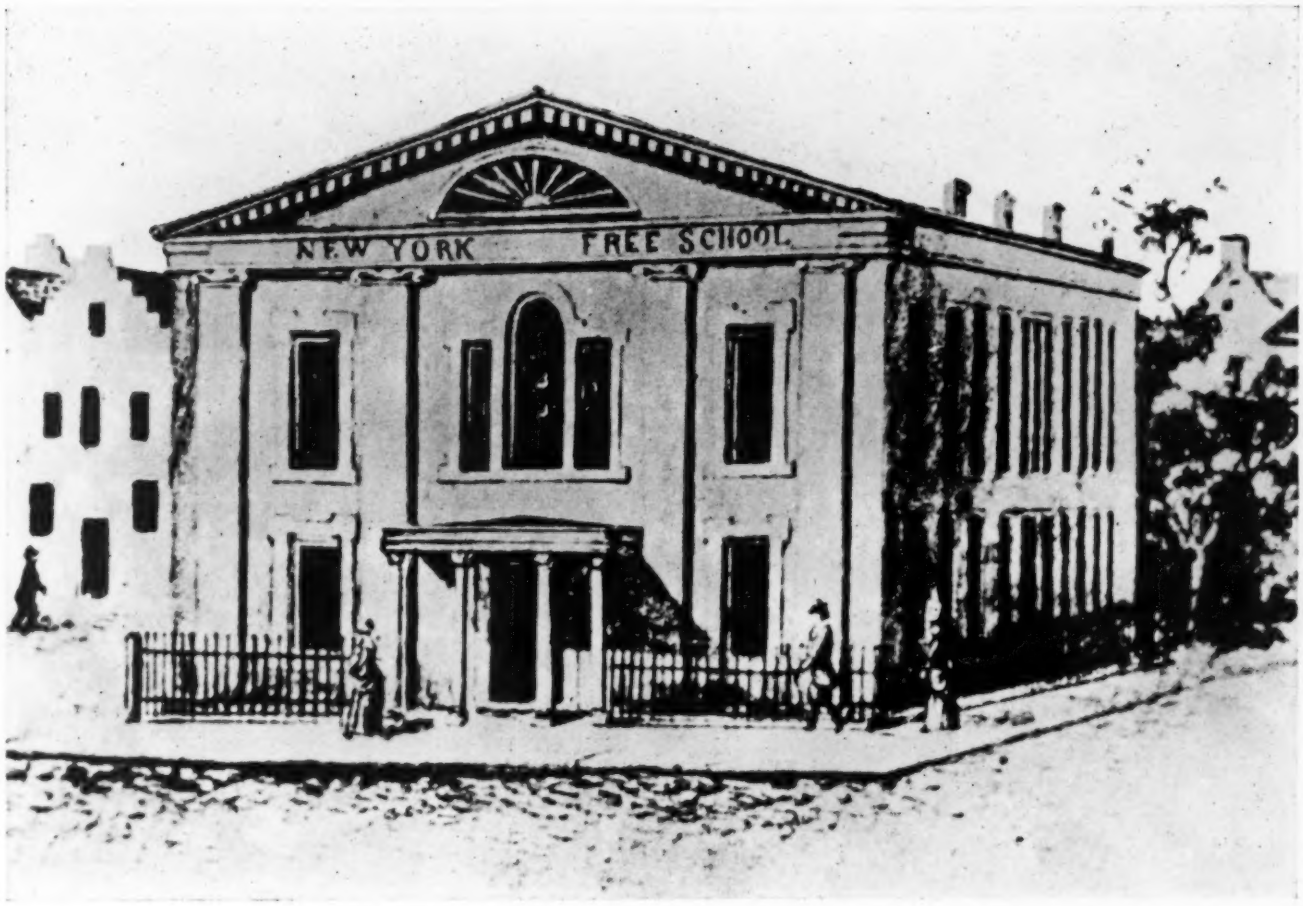
At present no special training is given those who anticipate high school or junior high school principalship. No special educational system has been set up to train prospective principals.

Courses Principals Should Take

More than 75 per cent of the superintendents and professors of education, however, recommend certain desirable professional courses for principals. These courses are as follows: junior high school organization and administration, psychology of adolescence, high school curriculum, principles of secondary educational measurements, vocational guidance, educational psychology and school supervision.

In making selections for the job, there is a tendency to appoint the junior high school principal from the local teaching staff. In experience, selections descend in the following order: junior high school vice-principal, junior high school teacher and elementary high school teacher.

According to 60 per cent of the city superintendents reporting and 72 per cent of the professors of education, the most desirable age for the position is between thirty and thirty-five years.



First school built by the Free School Society of New York City in 1809.

How the Graded School System Developed

By PHILIP A. COWEN, Research Associate, Educational Research Division, New York State Education Department

SCHOOL conditions somewhat parallel the cycles of business. During prosperous times money is spent freely on education and little accounting is demanded. During hard times money is scarce and greater scrutiny is exercised over its use.

Since the World War hard times have been more or less continuous. Consequently schools of all kinds, from kindergarten to university, have conserved their resources. A number of changes have been proposed and some of them are in effect. Since this period of criticism has not passed, however, it is necessary to make further educational changes. Many of these changes should have been made by educators without the impetus of external forces. They are needed to raise educational practices to the point of meeting the demands of a social democracy.

When studying present educational problems it might be profitable to consider other critical periods through which schools have passed. Some of these stand out as being particularly helpful because of their relationship to the present plan of school organization. One such period saw the beginning of the graded school about 1850. A discussion of this development may help to interpret the present critical period.

It is difficult to say exactly when the graded system began. It is true that the first graded school was started by John Philbrick in 1848 in Boston. It had a unified curriculum and twelve assistants.[1] This school, however, was not a spontaneous outburst. It was one of a series of events that favored the system.

Paul Monroe says that "both English and American systems are but the result of natural evolu-

tion out of the given conditions."[2] Martin expresses the idea in about the same way by stating that "industrial and social changes . . . rather than theories of educationists are responsible for the modern school system."[3] These changes were "the decay of the academies, the decline and fall of the district system, evening schools, scientific and technical schools, parochial schools, supervision by specialists, the improvement of school architecture, compulsory attendance laws, truant laws and truant schools." These, he says, are all "due to the change from rural to urban life, consequent upon modern mechanical inventions and their utilization under the factory system."[4]

Early Factors Influencing Grading

These points taken together present a strong argument to show that circumstances rather than planning aided considerably in creating the graded system. In fact "Foreshadowings of grading may be discovered early in history. The exclusion of the 'A-B-C-darians' from the Roxbury Latin School in 1668 was a formal recognition of the principle of division of labor in teaching. . . ."[5]

Shearer points out three steps that resulted in the graded school. These are: (1) an increase in the number of pupils sufficient to permit several to recite together in a given subject; (2) compelling all pupils to follow the same course of study; (3) a further increase in the number of pupils so as to permit a division of labor between two or more teachers.[6] These steps show clearly that schools were forced by circumstances to devise a scheme to accommodate the increasing number of pupils.

At first differentiation was made by schools rather than by classes. This is illustrated in Boston "where from 1635 on there was a free Latin grammar school open to boys only. Early in the eighteenth century separate 'writing' and 'reading' schools were added, and in 1789 a report of the Boston school committee shows that there were in addition to the Latin grammar school three writing schools and three reading schools maintained under the town auspices for both boys and girls. . . ."[7]

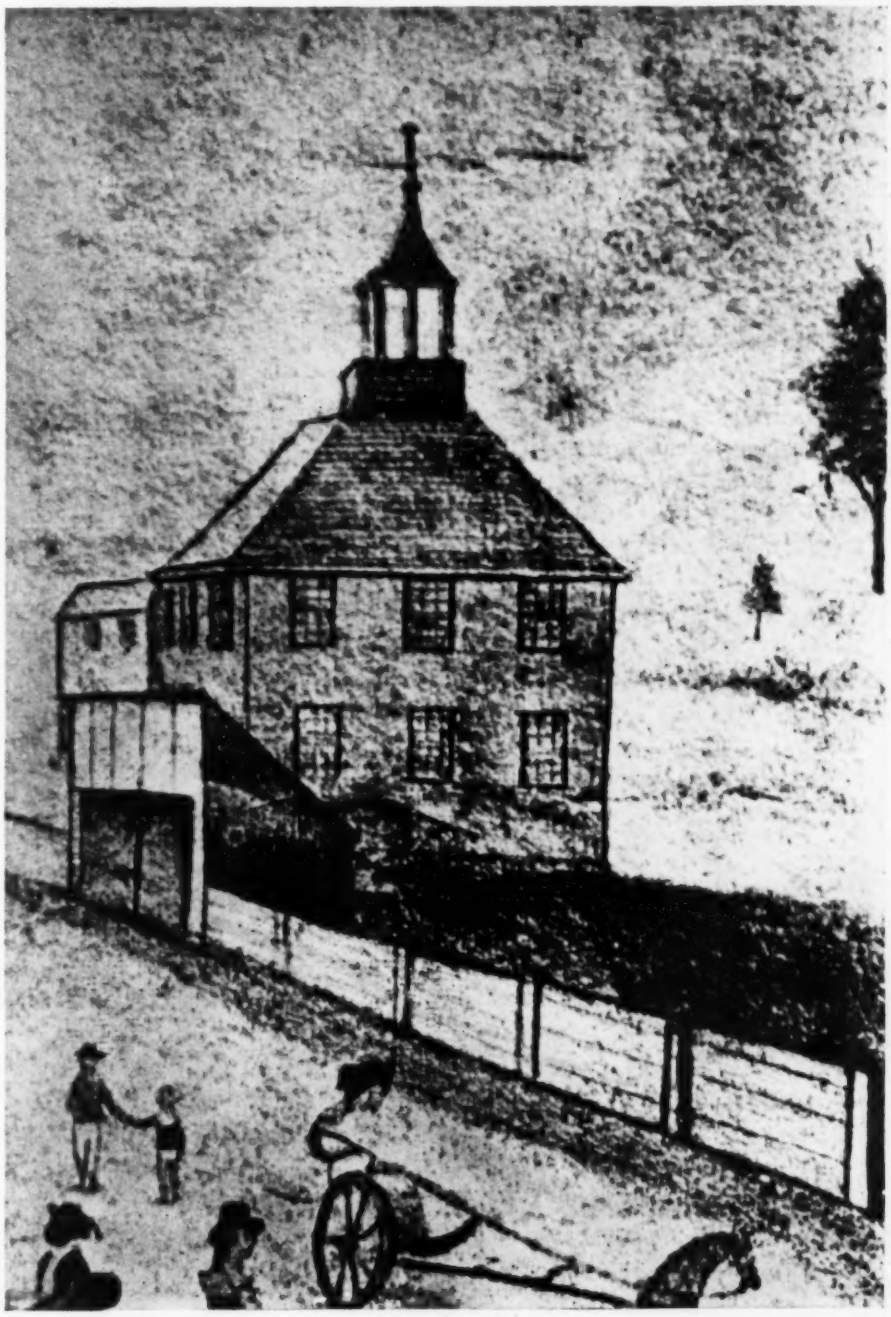
However, in rural areas the increase in school population was at first met merely by "the erec-

tion of additional ungraded district schools. When concentration became grave, instead of erecting ungraded schools, pupils were divided into two schools either on the basis of success or of age. As the advantages of further division became evident even a three part system was created with primary, intermediate, grammar or secondary schools. Sometimes each of the three parts was divided into three years with a teacher for each year.... But throughout there were in operation two controlling factors—the extension of school offerings upward and a tendency to concentrate the labor of teachers upon a narrower range of instruction."[8]

During the year 1863 when population was increasing as well as congregating in centers and thereby creating new school problems, the gradation of schools was widely discussed. The existing institutions for taking care of the problems of education were enumerated and characterized by Doctor Harrison in a lecture in 1836. He said, "Schools for popular education may be divided into the following: first, infant; second, primary or general; third, classical; Sunday; normal."[9]

Infant schools aimed to develop "social kindness, bodily vigor, and tender sensibilities." The primary schools were for general instruction in reading, writing and arithmetic. In the classical schools pupils studied Latin, Greek and higher mathematics. Normal schools trained young men to become schoolmasters.

The early plans of grade organization are sig-



An interesting view of one of New York's early schools is this reproduction of an oil painting of Washington Academy, Salem, N. Y. The picture was painted by St. John Honeywood, the second principal of the institution, and is typical of the schools of that day. One of Albany's early schoolhouses, pictured on the opposite page, was later used by the Albany Medical College, and was not torn down until several years ago.

nificant for two reasons, first, because of their bearing upon the immediate development of grades, and second, because of their value in helping to solve present problems of organization. Of all the men who discussed the problems of school gradation in the early part of the nineteenth century Henry Barnard and Horace Mann stand out for their continuously vigorous efforts.

In 1838 Henry Barnard expressed his ideas on gradation in an address. He said, "the great principle to be regarded in classification . . . is equality of attainments, which will generally include those of the same age." This point of Barnard's is worth noting because, although he says that attainment should be "the general principle" he further states that "great disparity of age in the same class is unfavorable to . . . efficient teaching." We find part of our present educational difficulties in the wide chronologic age range, such as six, eight or ten years, which is common in a single grade.[10]

The emphasis that Barnard placed upon age is shown by his description of the various school units. He said that "Primary schools as a general rule should be designed for children between the ages of three and eight years. . . ."[11] Secondary schools should receive scholars at the age of eight years . . . who will attend . . . until they are twelve years of age. . . ."[12]

Such a plan of organization although advocated nearly a hundred years ago would be an improvement over our present one if it were to be adopted. It would permit pupils of similar social ages to remain together. Within each natural age group it would divide pupils into small groups to secure natural competition in learning. With this organization pupils of varied interests and abilities who are kept in school by compulsory attendance laws could more easily be given an educational opportunity to meet their individual needs.

Grading an Early Practice in Europe

A certain amount of influence was exerted by men who visited schools in Europe, particularly in Prussia, and returned to write enthusiastic accounts of the pupil classification found there. Horace Mann, Calvin E. Stowe and others took part in this movement during the thirties and forties. Mann wrote: "In all places where the numbers are sufficiently large to allow it the children are divided according to age and attainments; and a single teacher has charge only of a single class or of as small a number of classes as is practicable."[13]

In his annual reports as secretary of the board of education in Massachusetts Horace Mann repeatedly discussed gradation. In his first report, for 1839, he said, "The population of many towns is so situated as conveniently to allow a gradation of the schools."[14] In his second report, Mann said he had noted with pleasure several places where his suggestions had been adopted.[15]

Two years later Mann, again discussing pupil classification, spoke of the disadvantages of planning a lesson for the average pupils of a class. He said, ". . . some members will acquire it, and have much time to spare; others, with the greatest diligence, will not be able to master it. Hence some will grow proud, thinking themselves wonderful geniuses; others will be disheartened, finding no effort sufficient to save them from an obvious inferiority. It is difficult, in such a case, to say which party is most injured. A vast amount of harm is inflicted by injudicious teachers in mismatching scholars."[16]

Mann's Views on Grading

Thus Horace Mann found from experience with random groups the most common arguments advanced to-day against ability grouping. He stood in favor of grouping pupils according to age and attainments in spite of the disadvantages. In this respect he agreed with Henry Barnard's ideas.

This agreement between Mann and Barnard on the basis of classification is further shown by a statement of Mann's:

"Should it be founded on age or attainment or both? I reply, chiefly on attainment; but let some respect be paid to age. On this point I have somewhat modified my views in later years. I would not put a large boy of sixteen into a class with a little girl of six or eight, because he can read no better than she. His backwardness, it may be, is his misfortune and not his fault. His position would be mortifying to his self-esteem. It would make him uncomfortable, and he would not learn so much. . . . Let him go in with those who are his equals in years, even though they should be somewhat further removed from him in attainment."[17]

Before discussing the graded schools that developed between 1850 and 1870 I shall enumerate several influences, in addition to those previously mentioned, which entered into the movement.

In 1837 the first office of superintendent of city schools was created in Buffalo. The assistance this office gave to the development of the graded system can hardly be over-estimated. Superintendents provided the leadership and planning without which little could have been accomplished.[18]

During much of the time that the graded school was developing, the district system caused dissatisfaction. In 1843 Buffalo attempted to alleviate the difficulties by dividing the population into larger districts, "varying from 1,000 to 1,500, so that each district will contain nearly three hun-

dred children. In each a schoolhouse is erected containing two apartments, in one of which a female teacher is employed to superintendent the instruction of the younger pupils and in the other a male teacher, at a fixed and competent salary, to give instruction in the higher branches." The superintendent reports that "the system has thus far succeeded beyond the most sanguine hope of its projectors and friends. . . ."[19]

Lancastrian schools are credited with helping to bridge the gap between ungraded, private and charity schools and the full-fledged city system of grades.[20] In these a large school was divided into sections and each section into drafts. A pupil remained in one section for all studies but could recite in different drafts. Ability in reading determined classification in the lower sections and arithmetic in the upper. Pupil teachers and monitors took charge of the sections and drafts, thereby enabling a teacher to have a large school.[21] These schools made education possible for a large number of pupils at a greatly reduced cost per pupil. Thus the habit of attending school was developed and the necessity for graded schools increased.

In 1848 John Philbrick, as previously mentioned, opened the first graded school in this country, the New Quincy Grammar School, Boston. This new arrangement of having one teacher take charge of a room was found to allow grading of the pupils, and "to be less expensive and more efficient . . ." than ungraded schools.[1]

"By the fifties the agitation for the adoption of graded schools was much in evidence in the reports of state education officers. In New York, Pennsylvania, Connecticut, Massachusetts, Ohio, Illinois and Michigan, to mention a few of the conspicuous examples . . . the highest state officers offered to improve all schools by means of grading. . . .

"In Indiana the first report of the state superintendent of public instruction sets forth in 1852 a matured plan of school gradation. . . ."[22]

A report of the school committee of New Bedford, Mass, in 1851 states that for eight years their school organization permitted pupils to pass from grade to grade solely upon chronologic age.

In this early Dutch school, pictured by David Van Der Kellen, Jr., in De Oude Tijd, *the schoolmaster's desk resembles a pulpit.*

The committee expressed great dissatisfaction with such a plan because it permitted pupils to become lazy and indolent and yet it promoted them.[23] This statement from New Bedford illustrates an attempt to use the democratic scheme advocated by Henry Barnard. It was replaced later with the grade as an achievement level instead of an age group.

The Oswego Plan

In 1853 Edward A. Sheldon began to reorganize the schools of Oswego, N. Y. He discarded all of the old district boundaries and made three kinds of districts. First, twelve primary school districts for an equal number of pupils were created. Second, schools to accommodate pupils between the ages of eight and ten years were called junior schools. Third, two senior schools were established, one on each side of the river, for pupils between eleven and fifteen years of age.

The high school was then planned for four years. It completed a continuous course of thirteen years. The units may be designated as 3-3-3-4.[24]

This plan agrees in principle with the earlier ideas of Henry Barnard. It appears to be democratic because the successive units are designed for increasing ages. A system of promotion by examination with a uniform standard for all pupils would spoil this plan by making it possible for only a few pupils to reach the upper grades. Those who could not meet such a promotion requirement would be forced to remain in classes with younger pupils. Such is our plan to-day.

It was mentioned that state officials advocated graded schools in the early fifties. In his second annual report, in 1855, W. H. Barney, commissioner of common schools in Ohio, said, "It is gratifying to state that within the last two years, graded or union schools have been established in nearly one hundred and fifty towns and villages of this state, and that most of them are now in vigorous and successful operation."[25]

In 1856, on the occasion of inaugurating the common school system in Charleston, S. C., C. G. Memminger described the proposed schools which he claimed would relieve the current difficulties of poor teaching. He explained that a proper classification of pupils would give classes of forty "selected at precisely the same grade of attainments."[26]

Attention must be called to the connotation attached to the phrase "grade of attainments" by Memminger. This shows clearly that grades were recognized then as levels of achievement. We still attach that meaning to "grades," although we abbreviate the terminology. It is also interesting to notice that, according to Mr. Memminger, forty pupils of "precisely the same grade of attainments" could be found. This indicates the fairly crude idea of individual abilities that existed in 1856. We do not claim to find even two such pupils to-day, because we recognize more individual traits and we know more about their variability.

Three important changes in school organization were started in Rochester, N. Y., in 1862. First, the classification of pupils according to sex was abolished and duplicate schools were thus eliminated. Second, old district lines and officers were abolished, making the city one school district. Third, the number of elementary grades was determined by the number of years that were required for completion of the "best common schools." In Rochester this period was thought to be nine years, hence there were nine grades. Each was divided into three terms and "precisely" so much subject matter was prescribed for each term.[27]

During this discussion little mention has been made of the high school. This omission was made purposely so that several points could be considered together. In the early stages of our educational system it was not thought necessary for more than a few persons to attend college, hence private academies and public Latin grammar schools adequately met the needs for college preparation. But with a growing spirit of democracy there came the demand for an extension of public education upward. This need was felt because the people wanted a practical education beyond that offered in the elementary schools.

How the High School Developed

A town meeting in Boston on January 15, 1821, passed a report that established an English high school.[28] This was the first public high school established in the United States.

W. J. Gifford in discussing "The Historical Development of the New York State High School System" said: "The term 'high school' had come into use in New York at about the time of the founding of the English high school of Boston (1821) to designate monitorial schools of academic or partially academic rank. We found that these schools were favorably considered at one time as the means of a state system of secondary public or quasi public schools for the purposes of preparing teachers and of providing scientific training, but that they were rapidly absorbed into either the common school or academy systems, in most cases with a change of name."[29]

High schools did not flourish immediately. In fact, "There seems little doubt that until well toward the middle of the nineteenth century, the

TYPICAL SCHOOL ORGANIZATIONS, 1860-67*

Year	*Place*	*School Organization*
1860	Bangor, Me.	Suburban, primary, mixed, intermediate, grammar, select, high
1860	Concord, N. H.	Primary, intermediate, grammar, high
1860	Newark, N. J.	Primary, grammar, high, normal
1860	Wheeling, W. Va.	Primary, grammar
1860	Wilmington, Del.	10 grades (8 similar to primary, secondary and intermediate and 2 similar to grammar)
1862	Rochester, N. Y.	Primary, intermediate, grammar, free academy
1865	Newport, R. I.	Ungraded, primary, intermediate, grammar, high
1865	New York City	Primary, grammar, free academy, normal
1865	Oswego, N. Y.	Primary, junior, senior, high
1866	Troy, N. Y.	Colored, primary, intermediate, grammar, high
1867	Baltimore	Primary, grammar, high, city college
1867	Cincinnati	District, intermediate
1867	Columbus, Ohio	Primary, secondary, intermediate, grammar, high
1867	Jersey City, N. J.	Primary, grammar, normal, colored
1867	Louisville, Ky.	Primary, intermediate, grammar, male and female high
1867	New Haven, Conn.	As many as 12 grades in the largest buildings
1867	New Orleans	Primary, grammar, high
1867	Providence, R. I.	Primary, intermediate, grammar, high with classical department
1867	St. Paul, Minn.	Alphabetical, lower primary, upper primary, intermediate, grammar, high
1867	San Francisco	Ungraded, primary, grammar, high, special
1867	Worcester, Mass.	Suburban, ungraded, subprimary, primary, intermediate primary, secondary, grammar schools of third, second and first grade, high, classical and English

*Bunker, F. F., Reorganization of the Public School System, U. S. Bureau of Education, Bull. 8, 1916, pp. 79-85.

academy was regarded as providing the solution of secondary education in the state (New York)."[29]

A statement from the third annual report of Supt. W. H. Wells, Chicago, in 1856 shows the stage to which the high school had been developed there.

Wells said, "The first examination for admission to the high school was held on July 15, 1856. The whole number examined was 158. Of these, 114 were admitted and forty-four rejected."[30] Thus, 28 per cent of the candidates were denied admission. High schools in 1856 were not the democratic schools of 1931. To-day, by admitting all pupils who pass eighth grade examinations the high school has a vastly more varied range of abilities and interests to accommodate.

"It must be evident from what has already been said about the development of school gradation in the United States that at the outset there was no uniformity of practice in the sectioning of the total educational offerings of local school systems. One state differed from another in the matter of preferred division, while there existed even among the local communities of the same state considerable diversity of practice."[31]

The accompanying table gives various illustrations of the status of school organization at the close of this critical period.

The various amounts of time that are allotted to these units of school organization further show the lack of uniformity of practice. If we assume that a grade means a year the following are illustrations of the years that are allocated to units in several places: 8-2; 6-7-4; 3-3-3-3; 2-2-3; 3-3-3-4; 6-2; 2-2-2-3-4; 4-3-3; 2½-2½-4-3 and 4; ?-5-5-4; 3-2-3-4; 2-2-2-2-3.

It is difficult to discover any central tendency from such a variety of plans of organization. These samples represent the practice between 1860 and 1867.

What Is Wrong To-Day

Our present dilemma is school organization in which we have democratic ideas but aristocratic practices makes it necessary to emphasize, by repetition, the development of such an inconsistency.

The early plan of organization advocated by Henry Barnard was again set forth, although slightly modified, in his recommendations to Congress in 1868 and 1870 while he was commissioner of education. In 1870 he again specifically said that there should be primary schools (including the kindergarten) for pupils from "three to eight years of age," intermediate schools for pupils from "eight to fourteen years of age," and secondary schools "generally including all between the period of twelve and sixteen years of age." In addition

Barnard proposed special and supplementary schools for pupils with special needs who could not be accommodated in the regular grades.[32]

It is particularly significant that Barnard stuck to these democratic ideas during the time when grades developed as achievement levels, promotion came by examination and the idea grew that only a few pupils should reach the upper grades.

To-day, however, we say democratically that secondary education is for all boys and girls between the ages of twelve and eighteen. But we have not modified our somewhat aristocratic school organization so that all may actually arrive there, nor have we developed differentiated curricula to accommodate their varied interests and abilities if they enter secondary schools.

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[12]Ibid., p. 461.
[13]Reisner, op. cit., pp. 200-201.
[14]Common School Jour., vol. 1, p. 287.
[15]Ibid., vol. 1, pp. 314-319.
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[28]Brown, E. E., The Making of Our Middle Schools, Longmans, Green and Co., New York City, 1905, ed. 2, p. 300.
[29]Gifford, op. cit., p. 52.
[30]Annual Report of the New York State Superintendent of Public Instruction, vol. 3, pp. 532-534.
[31]Reisner, op. cit., p. 381.
[32]Am. Jour. Ed., vol. 19, p. 137.

What a Study on Handwashing in Schools Shows

A recent study of handwashing facilities in 145 schools in fifteen states, representing a total enrollment of 124,088, has resulted in the following impressions:

Great interest is expressed on the part of school administrators and teachers in cleanliness education in school. Often, however, this interest is directed toward the elimination of visible dirt only.

Children are not universally and consistently washing their hands in school after toilet and before eating. On the contrary relatively few school children are washing their hands regularly at these times.

Children like to wash their hands in school when they find handwashing made convenient and pleasant.

Teacher interest is so important that its lack makes effective handwashing improbable, no matter how adequate the facilities provided for it may be.

In the majority of schools, the water equipment as to type, location and number of units does not favor handwashing by large groups of children in a limited time. In every case, however, if the school program had been organized to include handwashing, the existing equipment could have been used more effectively.

Soap and drying equipment, when provided, are supplied irregularly and on an inadequate basis.

The inflexibility of the school program often makes it difficult to secure the time and supervision which effective handwashing requires.

In more than one-third of the schools studied, closer coordination between school authorities and those responsible for the care of washrooms and the supplying of soap and drying equipment would have resulted in more effective care and adequate servicing of supplies.

How Hiram High School Vitalized Its Commencements

Vitalized commencements as they are conducted at Hiram High School, Hiram, Ohio, represent to the public the kind of work done in the school and give to the public and to the graduates a sense of academic achievement, says an article in the *Ohio Teacher*.

The experiment has been in progress for four years, the groundwork for the commencement programs being laid in classes in sociology, history and mathematics. In 1927 the topic was "The American Negro"; in 1928, "History of the Western Reserve"; in 1929, "Mathematics in Everyday Life"; in 1930, "The World To-day." The topic selected for the 1930 commencement was conceived of as a survey of the principal problems confronting the world to-day and grew out of the senior class in history.

Specific topics such as "Russia," "Unemployment," "Disarmament," "Prohibition," "China," "Prison Reform," "India," were made the object of study during the second semester and the conclusions in respect to each topic constituted a brief report or talk on the commencement program. "Disarmament" was handled as a debate.

Our Better Educated Teachers

Higher admission requirements to the teaching profession have resulted in more extended and more careful professional study on the part of those who would enter

By JOHN J. DYNES, Department of Education, University of Wisconsin

GREAT progress has been made in the selection and training of teachers during the past decade. The evidences of progress in the professional preparation of teachers are found in the reports from state departments of public instruction and from those in charge of the institutions responsible for preparing teachers and from those connected with the work of the training of teachers in service.

Many paragraphs in these reports are on such activities as advanced entrance requirements, differentiated courses, increased professional requirements for teachers' services, extension courses for teachers in service. These express recent tendencies as well as older tendencies in the professional preparation of teachers. Study and research in the fields of curricula, school organization and management, the application of the technique of activity analysis and job analysis in the preparation of teachers, and emphasis on personality and character building as aims of education have stimulated some newer movements.

In the past little was said to encourage school surveys and curricula revision, teacher training conferences, mental and achievement standards for admission, extra-curricular activities, teacher placement and follow-up services. To-day these and other similar topics are found on the programs of teachers' conferences and in teacher training discussions.

The following statement by B. W. Frazier summarizes well the development of teacher training during the last few years: "Among the outstanding trends in teacher training during the years 1926-28 may be noted some tendencies that have been growing cumulatively in force for about two decades. Some of these tendencies, as reported by responsible officials of the institutions that train teachers and by state departments of education, or as they are disclosed by the examination of research studies, reports and other publications in the field are the following:

1. Development of a clearer conception of the definition, scope and objectives of teacher training.
2. Increased professionalization of teaching and teacher training.
3. Growth in number of teachers' colleges, and schools and colleges of education.
4. Increase in direct state control of teacher training agencies and the consequent development of more unified and effective state teacher training programs.
5. Increase in the financial support of institutions and agencies that train teachers.
6. Raising of standards of qualifications for the staffs of the training institutions.
7. Increase in the number of trained teachers in relation to the number of teaching positions available.
8. Raising the state certification requirements.
9. Development of a greater degree of selectivity in the choice of trainees.
10. Improvement of teacher training curricula.
11. Development of training school facilities and offerings.
12. Improvement of instruction in the training institutions.
13. Development of more effective institutional facilities for the placement of teachers.
14. Enlargement and increased diversification of training-in-service programs.

The Scope of Teacher Training

The nature of the cultural, technical and professional subject matter, which constitutes part of the equipment of teachers, varies greatly among the many types of instructors. Teacher training includes general cultural elements but its aim is not primarily cultural. A teacher must have scholarship but he must be able also to exercise the skills of a practitioner. Actual work with children (practice teaching under proper observation and guidance) for the development of teaching skills is a major factor in the preparation of teachers. Teacher training refers in part to the work in professional education but skill in the use of an ample and well selected body of subject matter is, perhaps, an even more important element. A

teacher should have command of the subject matter and should be at home in all the common fields of human knowledge. Above all, he should be a person of culture. The teacher trainer is interested, also, in the development of marginal abilities and traits, such as personality and character.

Approximately 895,000 teachers at the present time are required to instruct something like 27,000,000 children in the classrooms of this country. In a great variety of ways and to varying degrees of completeness these teachers have been trained for their work. In Connecticut, Arizona, Massachusetts, California, New Jersey, New York, Oregon, Rhode Island and Utah, 75 per cent of the public school teachers have a preparation equivalent to two years beyond secondary school. Several states have less than 25 per cent of their teachers with two years of college grade training. According to the accompanying table, 57 per cent of the teachers in the public schools have two or more years of education beyond the secondary school. Only twenty-seven states were included in the study, the results of which are summarized in the table. This is somewhat higher than the estimate by B. W. Frazier[1] who suggests less than 50 per cent. More than 890,000 teachers, administrative officers, supervisors and principals are at work in the elementary and secondary schools of the United States. Approximately 340,000 of the elementary public school teachers are employed in rural schools.

Education's Opportunity

The public usually thinks of teacher training as the work in professional education only or at most as including the academic subject matter to be taught and the professional education. The tendency in recent years is to define teacher training in terms of its objective, which is preparation for a definite type of teaching service. Teacher training has been defined by B. W. Frazier as follows: "Teacher training consists in the provision of opportunities for a prospective teacher to acquire the requisite knowledge, the professional attitudes, the teaching skills and the capabilities for future growth that are demanded by the specific requirements of the position to be filled."

Children should have the opportunity to develop and to receive an education that will best prepare them to be efficient members of society and to be happy in society. Opportunity must be in terms of individual needs and abilities. The recognition of the principle of individual differences, and of the equal opportunity for all to receive an education, is conditioned by three factors: (1) the teacher, (2) the equipment and (3) the length of the school term. We are interested primarily in the teacher and in his intellectual, social, personal (physical and mental) and cultural qualifications.

In order to have the highest type of teachers, we must make a careful selection of the candidates for professional training. Acquaintance with subject matter is necessary, but provision for this should be made after the individual has been selected for teaching and not before. Through the use of intelligence tests and early school records, and through the study of personality traits, individuals must be rigorously selected for training.

Training the Candidates

Four guiding principles should be followed in the training of candidates. First, the prospective teacher should be given a broad, general education. This includes courses in the different major fields of knowledge such as language, science and art. Second, following the general course, he should be required to concentrate his efforts on the special subjects or group of subjects to be taught. This means the selection of majors and minors in the teacher training institutions. Third, he should be made familiar with the special body of knowledge that centers about the learning and teaching processes. This will include courses in the theory and practice of teaching, methods and educational psychology. Fourth, under supervision and guidance the candidate should acquire the more elementary skills of the art of teaching. The candidate should observe good teaching after which he should have the opportunity to put into practice the theories he has formulated. This should be done under the guidance of an expert teacher.

Teachers grow and develop in the art and skill of teaching through service. They learn how to solve teaching problems more efficiently and to provide for the needs of the individual more effectively.

There is a range of fifteen years between the poorest prepared and the best prepared teacher in the public schools, from the standpoint of time spent in school and school work completed. While scholarship, on the basis of the number of years of school work completed, is only one of the factors that enter into the efficiency of the teacher, yet we must admit that natural ability and ambition cannot make up for the difference between four years of work in the grades in one case and three or more years of graduate work in another.

We find, in a number of states, a few teachers in the rural schools who have no education beyond the fourth year of grade work. These teachers have little knowledge of the work of the first four grades beyond the merest minimum knowledge of the content, and they have no knowledge of the

[1]Bulletin of Education, United States Office of Education, 1929, No. 17.

content of the upper grades or of its significance. They have had no professional training and cannot be efficient teachers, first, because they do not have the knowledge of the content of the different grade subjects and, second, because they have had no professional training.

On the other hand, we find a number of teachers who have had not only the elementary, high school and college work, but who have received higher degrees from the graduate schools of education of the best universities. These teachers not only have a knowledge of subject matter, but they understand the scientific technique of teaching and apply the best methods available. They have a knowledge of the social and economic problems of modern civilization and the aims and purposes of education. These teachers, also, have an understanding of the psychology of the child and the psychology of the learning process, and are efficient because they have this general knowledge and technique as well as academic training.

In studying the table we see that there are three points or levels at which large numbers of students quit school and enter the teaching profession. The first level, at which any appreciable number leave school, is at the end of the high school course. Twenty-six per cent of the teachers have a high school education only. A large majority of this group teach in rural schools. Most of the states require that all teachers shall have some professional training and many of the states offer an opportunity for such training in the teacher training department of the high schools. There is a general tendency to require at least one year of work beyond the high school. This work is usually taken in some normal school, although many candidates enter the educational departments of colleges and universities.

The second level, at which any appreciable number leave school, is at the end of the normal school course or after two years of college or university work. Thirty-two per cent of the teachers left school at this level. A majority of those who have only two years of college work teach in the grade schools. A large number of this group teach in the junior high schools, a few in the senior high schools and in the grade schools, and a very few in the rural schools. Many states require at least two years of college work for those who teach in the graded schools and there is a tendency to raise this standard to four years of college work.

The third level, at which large numbers leave school and begin teaching is at the end of the four years of college work. Twenty per cent of the teachers reach this level, most of whom are to be found teaching in the senior high schools. There is a tendency in a large majority of the states to require the teacher to hold a college degree if he wishes a certificate to teach in the senior high schools.

The figures in the table were tabulated from the reports of twenty-seven different states. Reports were not available for the other twenty-one states. The reports from the twenty-seven states were not complete but they give us a fair sampling.

Leading men and women of the country and the general public have become greatly interested in education and in teaching (teachers and methods).

DISTRIBUTION OF TEACHERS ACCORDING TO THE AMOUNT OF EDUCATION

Type of school	*Grade or year of work completed*	*Number of teachers completing work at different levels*	*Per cent of teachers*	*Accumulative*	
				Number	*Per cent*
Grade School	4	*			
	5	*			
	6	*	.7	(?)	.7
	7	*			
	8	3,383	1	3,401	1.7
High School	I	1,289	.3	4,690	2
	II	13,123	3	17,813	5
	III	2,749	1	20,562	6
	IV	97,743	26	118,305	32
		9,474	2	127,779	34
College (Normal) (Univer.)	I	34,676	9	162,455	43
	II	123,631	32	286,086	75
	III	6,518	2	292,604	77
	IV	76,523	20	369,127	97
Graduate Work	5th Year	7,925	2	377,052	99
	Degrees	3,449	1	380,501	100

*Actual numbers were given in only a few cases. Statements such as "a few," "a small number," were found in some reports, so the percentage is only a rough estimate.

This increase in interest shown in teaching as a profession has resulted in a large number of candidates for admission to teacher training institutions. This greater number of candidates, with definite limitations in instances of the physical capacity of the institutions, and the general desire of those in authority to graduate a superior product have been instrumental in raising the entrance requirements. The higher requirements for admission have made the teaching field a more desirable one to enter, and this has served to attract a larger percentage of candidates capable of doing superior work in the teacher training institutions.

Some states require the candidates to present credits in certain academic subjects. (New York requires 15 units, which include English, 4 units; science, 2 units; mathematics, 2 units; foreign language, 2 units; theory, 1 unit.) A number of states require the selection of majors and minors and specific professional courses.

A few institutions believe that teaching is of sufficient importance to call for the best energies of the most carefully selected candidates and that scholarship alone is not sufficient evidence of the fitness of a student for the responsible position of teacher. The Rhode Island College of Education is an example of this group and of what is being done. For more than a decade this college has used a type of selective admission which has resulted in a well selected group of students representing almost every section of the state. A preliminary selection, based on scholarship, personality and probable fitness for teaching is made by the superintendent of schools of the town or city in which the applicant lives. Seven different items appear on the personal fitness card each indicating a number of elements or factors that enter into a judgment of personality. The principal items and a few of the factors are listed here.

Personality Index Card

Intellectual Qualities: Good natural endowment. Accurate, alert, with keen perceptions and retentive memory. Good power of generalization and analysis. Logical. Naturally desirous of learning. Sincere and openminded. Inventive and constructive. Rational, judicious, thorough, capable of forming independent judgments.

Habits of Work: Artistic and neat. Industrious, quick, responsible, purposeful, persistent. Economical of time and of materials. Adaptable, attentive, cooperative, decisive, executive, teachable. Regular and punctual in attendance.

Personal and Social Characteristics: Conscientious, self-controlled, self-respecting, thoughtful, prudent, refined. Influential, independent, magnanimous. Faithful, helpful, loyal, trustful, congenial, courteous, harmonious, patient, respectful, tactful. Honest, honorable, truthful, genuine. Regardful of law and of social obligations. Pureminded.

Emotional Characteristics: Ambitious, buoyant, courageous, determined, earnest, hopeful, idealistic, reverent. Appreciative of the beautiful. Devoted to the right. Friendly, generous, kindly, forgiving, humble, sympathetic, well poised. Insistent upon the truth. Tolerant, sportsmanlike, publicspirited. A good sense of humor. Control of temper, tongue and impulses. Enjoys work.

Physical Characteristics: Strong and vigorous, with a well developed body. Good muscular control. Graceful in figure and carriage. Good eyesight, sound teeth, no physical handicaps. Voice clear and musical, not a monotone.

Evidence of Cultural Training: Habitually clear and correct use of English, both spoken and written. Original thoughts that are expressed forcefully. Makes good recitations in class. Writes a clear, concise, correct business letter. Writes legibly and well. Habitually correct in spelling, punctuation and sentence construction. Vigorous, well balanced reading habits.

Special Abilities: Sing. Has a sense of pitch and of rhythm. Can read simple music at sight. Plays some instrument. Studied drawing. Has a knowledge of principles of design, representative drawing, perspective, color.

New Height-Weight Tables Are Compiled

Height-weight tables for boys and girls between one and six years of age have been compiled by the Children's Bureau, Department of Labor, as part of a new booklet, "The Child From One to Six: His Care and Training." The tables are the result of the re-analysis of the heights, weights and ages of more than 125,000 white boys and girls examined in all sections of the United States during Children's Year, 1918-19.

The bureau points out that the tables merely represent the average weight of many ordinary girls or boys of a certain height and age, and do not fix a weight that is necessary for health at that height and age. Regular gain in weight and height is more important than weight or height at any one time. In comparing a child's weight and height with the average, the bureau emphasizes that the characteristics of his race, nationality and family should be taken into consideration. In addition, a child whose skeletal frame is broad and heavy tends to weigh more at a given height than the child whose skeletal frame is slender and light.

Westfield Waits Seven Years for Its New High School

But it was worth waiting for as a glance at the pictures and plans will show; nothing has been left undone to give the town a school it can be proud of

By CHESTER D. STILES, Superintendent of Schools, Westfield, Mass., and M. B. HARDING, Architect

THE story of the selection of a proper school site for a new high school in Westfield, Mass., contains a suggestion, at least, and perhaps even a contribution to the problem of schoolhouse planning. Seven years after a preliminary study had been made of the accommodations required, the school board received from the chairman of the building commission the keys of the new building. These seven years were filled with proposals, rejections, new proposals and further rejections, referendums in two city elections and considerable political activity.

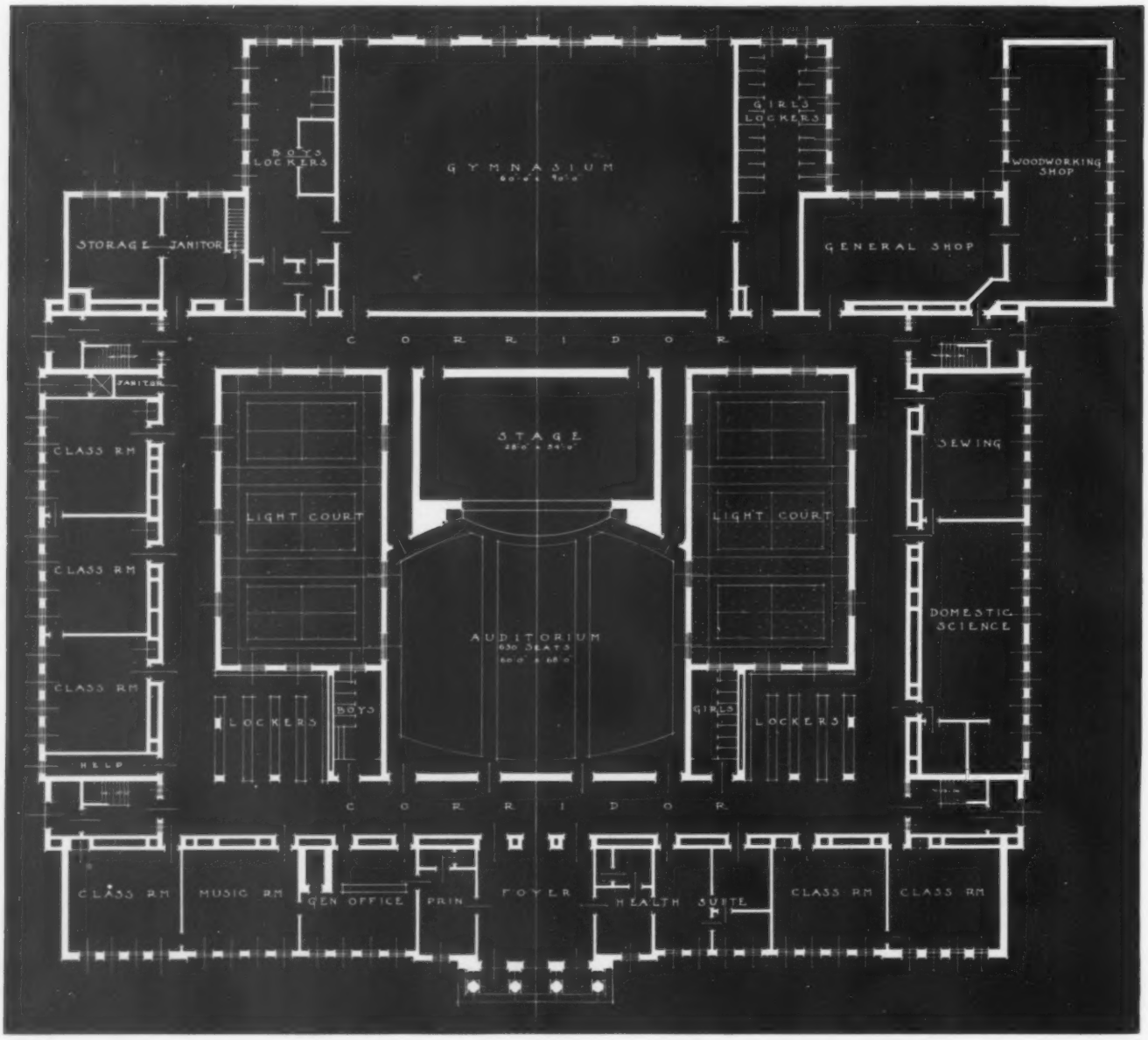
In accordance with the traditional practice in the city, a commission was appointed to select a site and erect a high school. Consultants from Teachers College, Columbia University, were invited to make a preliminary building survey. All available sites were charted and presented to the commission for their consideration with a statement of assessed valuation. Two factions at once developed — those who had responded to the campaign of education conducted by the school officials favoring an outside site with thirty acres of land on the fringe of the residential section, and those who preferred a centrally located site, a block situated on a busy thoroughfare with dimensions a few feet greater than the building proposed. The commission selected the outside site.

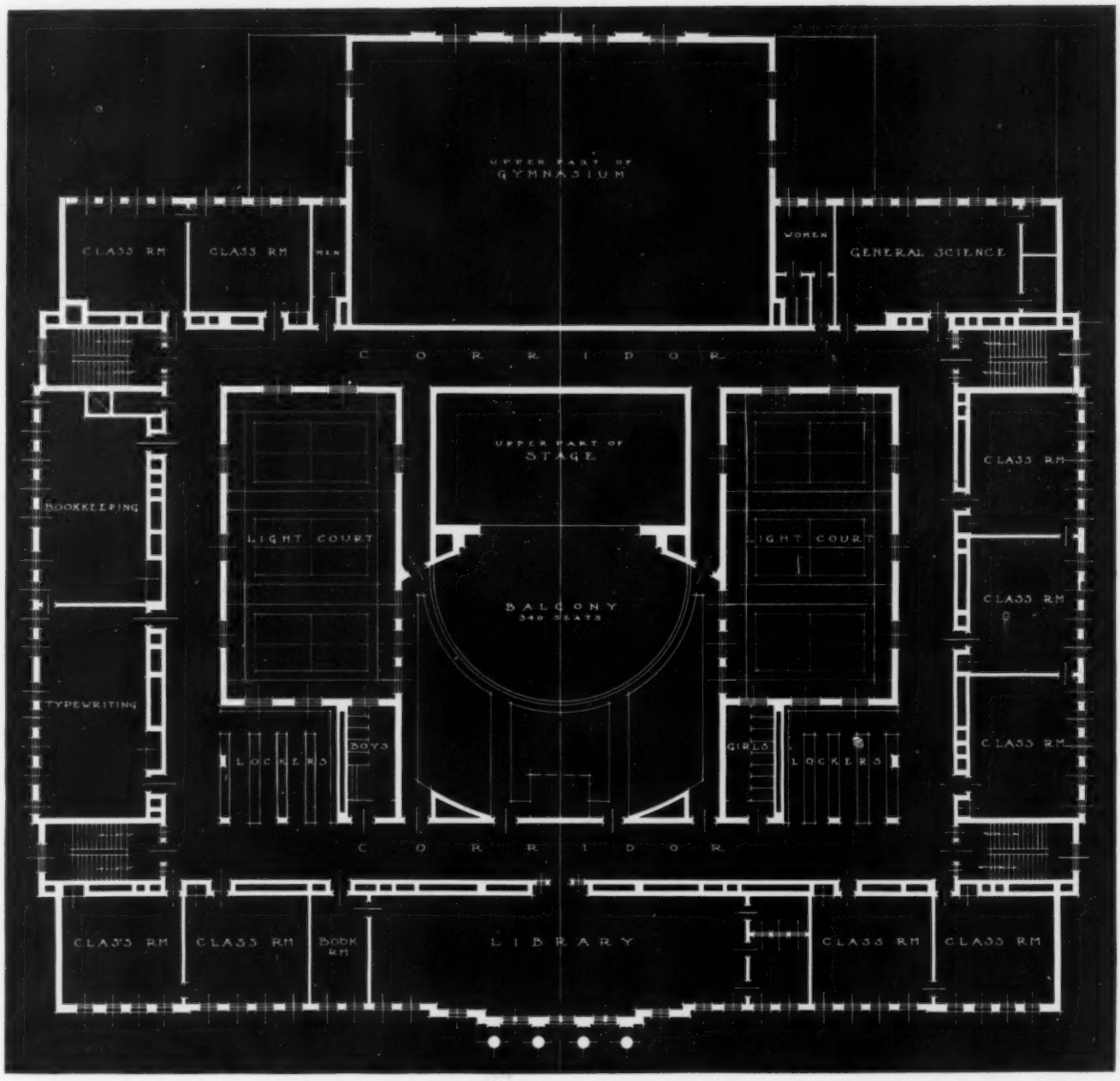
Simplicity, dignity and straightforwardness characterize the Georgian design of the new school.

A petition for a referendum was circulated and at the following city

The building, of red brick with light buff trim, is surrounded by wide lawns and playing fields. The architecture, so typical of New England, harmonizes with buildings in the town that are over 200 years old.

The plan of the ground floor shown below demonstrates how the design chosen provides for efficiency, economy of space and materials, the possibility of future expansion, flexibility and economy through adaptability.

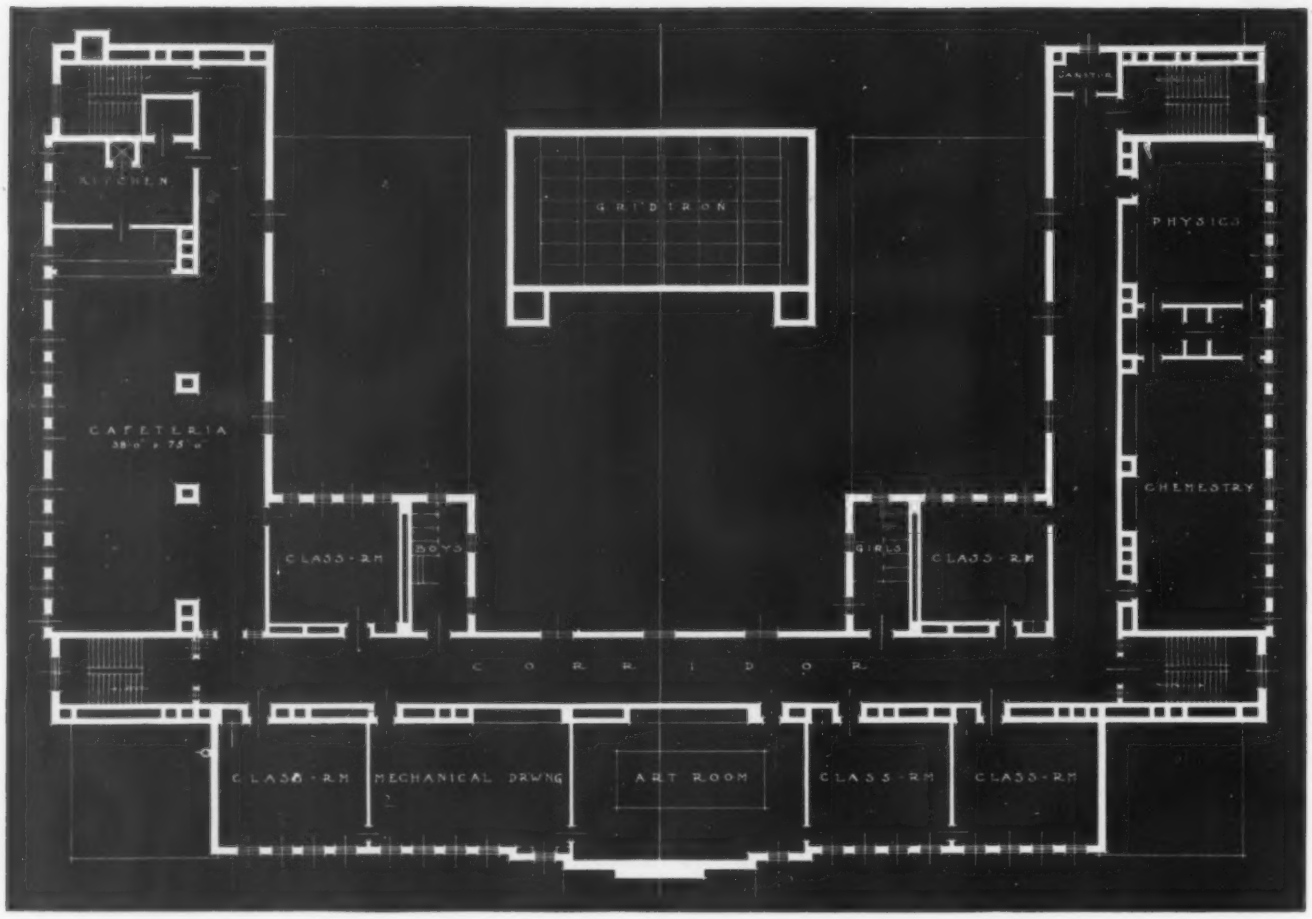




The gymnasium and the auditorium extend up for two floors, as can be seen from this plan of the first floor.

election the site was rejected. The opponents had the support of those who considered the site selected too remote, of those who did not want to build any school at all and of those who considered the property too expensive. A further program of education was conducted, schools visited and the same site was again selected but reduced to fourteen acres to meet the expense argument. Another referendum was held and this site was rejected. There was proposed a compromise site in another section, but before action was taken on this site a former resident of the city, Albert Steiger, offered to donate a portion of the first site selected, but still further reduced to about eight acres. This gift was accepted and the question of site was no longer opposed.

In view of the fact that the erection of a new senior high school would entail a general change and revision of the entire school system, it seemed advisable to the building commission that educational engineers be retained to work with the superintendent of schools for the purpose of outlining and determining general plan requirements. The consultants together with the superintendent outlined the building program. Studies of population, registration and forecasts were made, the aims to be achieved were outlined and the program of education necessary to achieve those ends was planned. In the light of these factors a schedule was determined. The schedule contained a statement of the number of rooms required, and of their size, capacities, equipment and location



The physics and chemistry laboratories and the large cafeteria are on the second floor, a plan of which appears above. The domestic science room pictured below is well equipped for training the town's future housewives.

with reference to other rooms, as well as certain specifications relative to type, to the general characteristics and to the arrangement of the plan. The building was designed to meet the school building program.

The problem resolved itself into a program calling for a senior high school of 1,000-pupil capacity, about 1,500,000 cubic feet of building and an appropriation of $500,000 for building, equipment, architects, engineers and grading complete, exclusive of site. The general concensus was that to specify cheap materials was not true economy.

Efficiency, economy of space and materials, future expansion, flexibility, economy through adaptability and accessibility were the fundamental principles that underlay the planning and organization of the school. The following schedule gives a clear idea of how closely the distribution of floor space followed the recognized standard for efficiency and economy of floor space and materials: walls and partitions, 8.47 per cent; flues, 3.20 per cent; stairs and corridors, 22.93 per cent; accessories, 1.43 per cent; instruction, 52.20 per cent; administration, 11.77 per cent.

The accompanying plans are self-explanatory and indicate the educational facilities provided. The pictures indicate the design, the materials, the finish and the equipment. The building is built according to recognized school standards and the Massachusetts state law that governs classroom lighting, safety, sanitation, ventilation and heating.

As with the plan so with the architectural design. Expensive motifs were eliminated and also repetition in shapes, in materials and in detail. Simplicity, dignity and straightforwardness are the characteristics of the Georgian colonial design that is so representative of the history and people of Westfield and New England. The buildings in Westfield that are more than 200 years old are in great part a development of this style and are of the local materials.

The Kittredge Memorial Library occupies a large well lighted area on the first floor.

The building is of red brick with light buff stone trimmings. There is no wood construction, the frame being of steel with steel joists, the floor of concrete and the roof also of concrete construction. Staircases, locker rooms and corridors are of light buff, pressed face brick side walls and have terrazzo marble floors. The building is finished with cement plaster on metal lath and trimmed with metal flush trim, gymnasium and stage floors are of maple and the rest of the floors are finished with battleship linoleum. The stage in the auditorium (50 feet high) is built and

equipped for theater purposes and is used in part by the community. It can accommodate 1,000 persons. The ventilating system is of the mechanical exhaust type with ventilation units in each room. The heating system is steam vacuum with temperature control. The plumbing is consolidated mainly in two stacks with the water piping in brass and the fixtures in vitreous china. All electric wiring is in iron conduits. The building is equipped with standard time clocks, fire alarms and an intercommunicating telephone system.

The total cost of the project exclusive of site was $535,461. This includes about $65,000 for equipment and $20,000 for grading and approach work. School was opened in September, 1930.

The following quotation from the last report of the high school principal shows how accurately the plans were drawn.

"Some figures on the present utilization of the building might be of interest: total number of room periods per week available, 930; number of room periods per week in actual use, 822; percentage of room utilization, 88.

"Of the 108 room periods per week not being used at present, fifty-two are in the two shops that are not equipped and forty-six are in science and drawing rooms that are not well adapted to other classes. This leaves ten unused room periods per week in the rest of the building. In other words, except in shops, laboratories and drawing rooms, there are only two periods in each day when there is a vacant room in the building, so that the actual utilization of the school's facilities is much nearer 100 per cent than the figures indicate.

How Space Was Allocated

"To show the utilization of each room, the following figures are quoted: average room capacity, 33.2; average actual class size, 27.5; percentage of seat utilization in each class, 83. The average class size has grown during the last three years—it was 26.3 last year and 25.4 the previous year. This average can be increased somewhat beyond the present point, but there is a positive limit considerably short of 100 per cent utilization, owing to the irregular enrollment in certain subjects. Some subjects will always have enrollments far below the school average, and other subjects will have too many pupils for one section and not enough for two full sections. Out of 156 classroom sections now being taught in the school, fifty-three equal or exceed the membership of thirty that is set by the New England Association of Colleges and Secondary Schools as an aceptable maximum size of classes. The school, however, will continue to raise the class size as near to room capacity as possible since there is still considerable difference of opinion among educators as to whether or not there is any real magic in a maximum of thirty."

Since the opening of the new high school there has not been a single complaint registered by any pupil because of the location of the school. The public almost unanimously approves of the present site and the citizens, instead of their former critical attitude, are emphatic in their commendation of the judgment of the commission in selecting this particular location.

How Parent-Teacher Groups May Aid the High School

In what specific ways may high school parent-teacher associations function helpfully?

This question was asked sixty-three secondary school administrators in California by Nicholas Ricciardi, chief, division of secondary education for California. Replies from the administrators definitely recommended the following types of service:

1. Participate in a study of the needs of the school.
2. Aid in procuring the proper financing of the school.
3. Interpret the high school to the community.
4. Cooperate in carrying into the home the plan of directed study.
5. Cooperate in making the program of guidance as effective as possible.
6. Participate in formulating and in carrying into effect the standards of the school.
7. Through study groups make parents better informed concerning the aims of education.
8. Give intelligent support to extra-curricular activities.
9. Cooperate in planning and directing the social program of the school.
10. Develop proper public opinion toward the school.
11. Assist in the publication of a handbook or bulletin which will give in nontechnical language all the information about the school that parents and the community should have.
12. Make scholarships available to worthy and needy pupils.
13. Assist in providing food and clothing for needy pupils.
14. Participate in planning programs for public school week.
15. Intelligently support school bond issues.
16. Assist in providing a suitable school environment in which boys and girls can grow into self-directive and contributing citizens.

Cleaning Blackboards, Erasers and Toilets

How the janitor may do this work effectively and speedily is described here, together with the tools and appliances he will need

By CHARLES E. REEVES, Elmira College, Elmira, N. Y.

BLACKBOARDS and erasers should be cleaned by janitors frequently enough to prevent teachers and pupils from having to supplement their work. The cleaning of blackboards and erasers by teachers is a distinct waste of their time. Janitors are employed to do all of the work of cleaning the school building and its equipment. There can be no excuse for shifting a part of the janitors' work to teachers and pupils.

Better results are obtained by janitors than by either teachers or pupils in the cleaning of blackboards and erasers. Observations of blackboard cleaning and of the results, as indicated by the condition of blackboards after cleaning, bear out the contention that janitors can clean blackboards, chalk trays and erasers better and more rapidly than can the teachers. In schools where blackboards are cleaned by janitors, the blackboards are usually cleaner and less streaked than in schools where teachers do the work. Those cleaned by teachers are often covered with loose chalk dust or are streaked from improper washing and drying. Chalk trays and erasers are usually filled with dust in the buildings where janitors do not clean them.

Effective Methods Are Usually Rapid

How frequently blackboards need to be cleaned depends upon how frequently they are used.[1] As a rule, front blackboards and some side blackboards should be cleaned twice a week. In some classrooms, blackboards are used less than in others. In such cases the back blackboards and some of the side blackboards will need cleaning only once a week. Chalk trays should be cleaned twice a week at the time the blackboards are cleaned. Erasers will need a thorough cleaning twice a week.

[1]Reeves, C. E., and Ganders, H. S., School Building Management, chap. 13, Bureau of Publications, Teachers' College, Columbia University.

Janitors use a number of different tools, appliances and agents for cleaning blackboards with varying degrees of effectiveness and speed. Some of the most effective methods are also the most rapid.

Clear, warm water, or water containing a small amount of ammonia or kerosene (about a tablespoonful to a pail of water) will be most effective as an agent for cleaning slate blackboards. The continued use of water will injure blackboards made of paper, plaster, painted wood or other composition. For this reason none but slate blackboards should ever be installed in school buildings.

Suggestions for Cleaning Blackboards

In the washing of blackboards a heavy bath towel should be used. If the blackboard surface is smooth, the wet towel may be rolled around a stick ¾ inch by ¾ inch by 2 feet and applied to the blackboard, the janitor pushing the towel along the blackboard from one end to the other. It is possible also merely to fold the towel at the middle, then from each side to one-third the width of the towel (six thicknesses), and apply it to the blackboard with the stick or even with both hands spread flat over the towel.

The use of a sponge or small cloth in one hand is an ineffective method, because such a method is slow and will cause streaks. A squeegee is unsatisfactory because it pulls water into the chalk tray. Circular motions should never be used on a blackboard since such motions are responsible for streaks. Back and forth movements along the blackboard are slightly preferable to up and down movements, because they are more easily made. This is especially true when the hands are used to hold the towel to the blackboard. Up and down movements, however, will have to be made at the ends of blackboards.

Erasers can be cleaned best by means of a cen-

tral vacuum cleaner. If this is not available, a portable vacuum cleaner or an electric vacuum eraser cleaner will be found to be best. Beating erasers together or brushing the dirt off the outer edge of the felt strips with a fiber brush requires more than ten times as much time as cleaning them with a vacuum cleaner and the erasers cannot really be cleaned by such methods. This is especially true of the method of brushing erasers with a fiber brush. In this case the dust is merely brushed from the front of the eraser, the space between strips of felt being filled with dust which readily comes to the surface when the erasers are again used.

Vacuum Best for Erasers

An eraser cleaner which cleans by means of vacuum would be effective except that the amount of vacuum produced is usually insufficient to clean the erasers as thoroughly as they should be cleaned in order to keep the blackboards free from dust. Moreover, some fine chalk dust will escape through the cloth dust receptacle, since all the air that passes from the eraser through the cleaner must escape through the cloth bag. Most electric eraser cleaners clean by means of both a revolving brush and a vacuum. The vacuum accomplishes the real cleaning. The brush brightens the front surface of the felt strips.

The brush of an electric eraser cleaner should be so placed that it will not throw dust into the air. The cloth dust container should have a mesh closely enough woven so that little dust will escape into the air through the bag; on the other hand, the mesh should not be so fine that the amount of vacuum is greatly reduced. As a rule, electric eraser cleaners produce an insufficient vacuum for a thorough cleaning of the erasers without the vacuum's being greatly restricted by a fine mesh bag.

But with all their disadvantages, eraser cleaners are far superior to the method of beating erasers together or brightening the surface of felt strips by means of a fiber brush. A central vacuum cleaner is best. A portable cleaner, such as is used in residences, will produce as much vacuum as an eraser cleaner and will cost only about twice as much. The price of such cleaners at present is from $60 to $75 each. While such a cleaner cannot be used for cleaning bare floors, there are many uses to which it can be put in a school building.

Chalk trays should be brushed out, after the blackboard has been cleaned and then wiped with a cloth dampened with water or treated with furniture polish. If a vacuum cleaner is used for cleaning floors, the dust may best be removed by this means during the process of cleaning the floors. Some janitors prefer to wipe the chalk dust out of trays with a water dampened cloth, and then with a cloth treated with furniture polish. This helps to prevent the stirring up of loose chalk dust.

The care of toilet rooms does not require a great deal of the time of janitors. This work, however, is important for hygienic reasons and because of the disagreeableness of toilet room odors in a school building.[1] The janitor must not only clean toilet rooms but he should be made responsible for their supervision at dismissal periods when they have greatest use. He must see that they are properly used, that toilet paper is not wasted, that no marks are made on the walls, that they do not become a congregating place for children and that they do not harbor practices of smoking or the use of foul language. Women assistants should be employed to supervise the girls' toilet rooms.

All toilet rooms should be cleaned thoroughly once a day. Those on first or basement floors should be cleaned from two to four times a day, depending upon their size, the amount of use they receive, the amount of sunlight admitted, and the possibility of adequate ventilation. Cleaning will include mopping the floor and washing the seats, the bowls, the urinals, the lavatories and the sinks. The cleaning of woodwork, partitions, chains, handles, doorknobs and the like may be performed once a week. The supplying of paper, liquid soap, towels, and the removal of marks must all be performed immediately upon the discovery of the need, although it is well if janitors will also set apart a regular time each morning for this work.

Toilet room cleaning should be performed during school hours, when the children are in their classrooms. If this work is left until after school, it will encroach upon the time that should be used for cleaning floors. Probably the best time for cleaning toilet rooms is immediately after the beginning of school sessions, which is immediately after they have been used most.

Women Assistants Will Be Needed

The cleaning of toilet rooms during school hours will necessitate the services of one or more women assistants for the cleaning of the girls' toilet rooms. This, of course, is not the only work women assistants should be expected to perform. There will be enough light work in almost any elementary school of average size to keep at least one woman assistant busy. Moreover, the employment of one or more women assistants is likely to result in a financial saving for the board of education,

[1] Reeves, C. E., and Ganders, H. S., School Building Management, chap. 11, Bureau of Publications, Teachers' College, Columbia University.

for women can, as a rule, be employed at a lower salary than men. However, the employment of women should not be carried too far. There is still need for more men than women on the janitorial force in the ordinary school building.

Toilet rooms and fixtures should be made of nonabsorbent materials. White is the best color since it shows more plainly the condition of cleanliness in the toilet rooms. Tiled floors and porcelain fixtures are essential. Slate is nonabsorbent but it is too dark to show dirt readily. Closets should be plain and made of marble or steel. Wooden closets are difficult to keep free from dirt, dust, marks and carvings.

Separate Ventilation for Toilet Rooms

Where toilet rooms are on basement floors, there is often a floor drain to the sewer. This is useful in that it enables janitors to clean the toilet rooms by flushing them with hot water. If there is a drain to the sewer, the floor should slope from all directions toward the drain. The porcelain bowl type of urinal is best, but if urinals have a floor gutter, the floor immediately in front of the gutter should slope toward it.

There should be adequate toilet facilities for children. One seat for every fifteen girls and one seat for every twenty-five boys, with one urinal for from fifteen to thirty boys may be considered as adequate.

Toilet rooms should be well ventilated by a separate system that may be operated when the building ventilating system is not in use. This is important also because toilet room air should not be mixed with classroom air for recirculation. An exhaust system will be best, since it creates a partial vacuum so that when toilet room doors are opened air rushes in instead of out. A plenum system is unsatisfactory for toilet room ventilation because the extra pressure forces air into the corridors when the doors are opened.

Toilet rooms should receive a sufficient amount of sunlight to keep them dry and to kill germs. For this reason they should not have a northern exposure. They should have a large window area to admit the sunlight.

Timed flushing toilets should not be used. Toilets should be flushed immediately after they are used. Toilets should be flushed by means of a chain, a handle or a button or by automatic means such as a seat that rises upon a removal of the pressure. Timed flushing of urinals may be advisable since it is difficult to habituate boys to the practice of flushing urinals after use.

The water used for cleaning toilet rooms and fixtures should be treated with a strong solution of cleanser. A strong solution will not harm tiled floors and slate or porcelain fixtures. A disinfectant that is a real germicide, such as ammonia, carbolic acid and formaldehyde, may be added to the water that is used for cleaning. The only way to kill germs is to bring the disinfectant into contact with them.

Deodorants, sometimes wrongly designated as disinfectants by dealers, are worse than useless. Germs are not killed by odors. The odors are disagreeable in the toilet room and sometimes permeate into the corridors. The purpose of a deodorant is to cover up rather than remedy a bad condition resulting from an unclean toilet room. Deordants should, therefore, be taboo in toilet rooms. Even disinfectants should be chosen which have the least odor, providing they are as good as the others. At any rate, odor is not a determinant of the germicidal values of a disinfectant.

In basement toilet rooms, if there is a floor drain, toilet rooms may be flushed with hot water. If this method is used, it should be in rooms containing little or no woodwork, because steam will injure it. There should also be sufficient radiation to dry the toilet room after it has been flushed.

Mopping, with an occasional scrubbing, is probably the best means of cleaning toilet room floors. The cleansing solution should be very hot and should contain a considerable amount of a strong cleansing powder. Many strong solutions will not injure toilet room floors and porcelain pieces, and the solutions must be strong to clean the rooms and dispose of germs. Small spaces should be mopped and dried before the janitor proceeds to other spaces. He does this in order to avoid tracking in case the room should happen to be used while he is cleaning it.

Why a Strong Solution Is Necessary

A strong cleansing solution should also be used for cleaning toilet bowls, urinals, lavatories and sinks. Toilet bowls and sometimes urinals are difficult to clean because of shoulders over the grooves from which the water flows into them. Bacterial cultures will accumulate in such places if they are not cleaned. These are not only dangerous but produce permanent odors that should be eliminated. How temporary odors may be removed by proper ventilation has already been described. Permanent odors cannot be removed by means of ventilation. A toilet room that has a bad odor does not always need more ventilation, especially if the odor is a permanent one. Materials that cause a permanent odor should be prevented from forming. This is important, because permanent toilet room odors immediately classify a building as being poorly kept.

The janitor should flush the bowls, after which

he should pour into them a strong solution of hot cleanser and disinfectant. After that is allowed to remain for a few minutes, he should wash all parts of the bowl and seat, including the grooves. Better cleaning will result from the use of a hand mop cloth. Probably a majority of janitors use the mop cloth. It should at least be used occasionally. A more agreeable, but less effective, means is a hopper brush. One that is curved at the brush end will be best if the janitor is to reach beneath the shoulder, for the ordinary straight hopper brush will not reach such out of the way places.

A brief review of the preceding paragraphs emphasizes the following points:

Remember That—

1. Blackboards that are used most should be cleaned twice a week. Those used least should be cleaned once a week. Erasers should be cleaned twice a week.

2. Water is the most effective agent for cleaning slate blackboards. Other kinds cannot be cleaned with water without injury. Only slate blackboards should be installed in school buildings.

3. Blackboards should be washed by means of a large bath towel, held against the blackboard with both hands, or with a stick. The janitor should move along the blackboard from side to side, holding the appliance against the blackboard as he progresses.

4. Erasers can best be cleaned by means of a central vacuum cleaner. If none is installed, an electric vacuum eraser cleaner or a portable vacuum cleaner will be second best. To clean erasers by beating them together or by brushing the surfaces with a fiber brush is ineffective and requires more than ten times as much time as to clean them by vacuum.

5. Chalk trays should be brushed out dry or the dust removed by vacuum, after which they should be washed with a dampened cloth, with a cloth treated with furniture polish or with both dampened and treated cloths.

6. All toilet rooms should be thoroughly cleaned every day. Those on the first or basement floors, where they receive much use, should be cleaned from two to four times a day.

7. Toilet cleaning should be performed during school hours while children are in the classrooms. The time after school sessions have closed for the day must be reserved for the cleaning of classrooms. The best time is immediately after sessions begin, for that will be immediately after they have been used most at which time there will be fewest children to use them.

8. One or more women assistants should be employed for every school to take care of the girls' toilet rooms in addition to other light cleaning jobs.

9. Toilet rooms should be well ventilated by separate exhaust systems. They should have large window areas and should be located on sunny exposures.

10. Deodorants should not be used in toilet rooms. Strong disinfectants, odorless if possible, may be used in the water prepared for cleaning.

11. Toilet rooms should be cleaned with very hot water in which there is a strong solution of cleanser.

12. Toilet room floors should be mopped. Toilet bowls and urinals should be washed out with a hopper brush, and occasionally with a soft cloth by hand, particular attention being given to the cleaning of grooves under the shoulders, through which water enters the bowls or urinals.

Remedying the Defects in a High School Supervisory Program

Various studies have shown that teachers in large high schools do not value highly the supervision they receive.

The first need apparent, according to J. T. Giles, state high school supervisor, Madison, Wis., is the application of modern theory in the reorganization of the high school supervisory program. Much of the current practice in this field is patterned after a traditional type of elementary supervision, he says. It is still authoritative and autocratic. High school teachers have, as a rule, more extended preparation for their work and for that reason feel less need of direction and coaching especially from a principal who may know very little about their special subject. They are, however, greatly interested in continuing their professional studies and would no doubt welcome supervisory assistance if it were arranged to meet their needs.

Mr. Giles points out a second problem arising out of this situation. It is the differentiation of supervisory function between the superintendent and principal who are generalists in education and the department head who is a subject specialist. The solution seems to be in an eclectic form of organization where each person concerned may render the service for which he is best fitted.

A supervisory program in a large high school calls for a great variety of activities some of which are general in character, others being quite specific and closely related to the subject taught. It seems quite possible to organize the supervision in any school system in a cooperative fashion so that leadership would be given to those best qualified for it, each working in the field of his special preparation.

A Consolidated School That Teaches Parents as Well as Children

By BERNICE ELLIOTT, Director of Publicity, Michigan State Normal College, Ypsilanti

This department of rural education is conducted by Helen Heffernan, chief, division of rural education, state department of education for California, Sacramento.

THE night school at Lincoln Consolidated Training School, near Ypsilanti, Mich., is not a vocational school or a moonlight school for illiterates. Rather, its purpose is to further the best interests of the community and to create new ones.

The Lincoln School was formed by the union of thirteen ordinary rural school districts. The consolidated district covers an area of sixty-three square miles and has a property valuation of approximately three million dollars. The building was erected by the people of the district. The faculty consists of thirty-one teachers supplied by the Michigan State Normal College, Ypsilanti. In addition to the ordinary subjects taught in the average school, home economics, agriculture, music, art, manual training, physical training and commercial subjects are offered. The school is attended by more than six hundred children, all of whom come from the farms.

The idea for the night school did not spring full-fledged from the active brain of anyone. On the contrary, it represented a tacit understanding that had existed between the people of the community and those of the school since the erection of a modern building in 1924. Always in the background had been the promise, "Some day we'll have a night school." Even so, the project might

An evening citizenship class at the Cooley High School, Detroit.

well have been doomed to failure had not the principal made the stipulation that without an enrollment of 200, the evening school would not be practicable and could not be held.

The plan was discussed with the faculty and the community council before the Christmas holidays. There were two meetings of the council after the first of January before the night school was started on the thirteenth. Each member of the council—an advisory body made up of representatives from the grange, the churches, the gleaners, the school board and the parent-teacher association—constituted himself an ambassador to the people of the district, soliciting membership.

Variety of Courses Offered

Courses were selected from a tentative list prepared by the faculty. Sixteen subjects were chosen which gave a nice balance between the cultural and the practical. No courses were given for a group of less than ten. The courses were: American politics, chair caning, chemistry applied to the farm, child care and personal hygiene, common arithmetical difficulties, easy English for the foreign born, European politics, home making projects, household and farm accounting, landscape gardening, music for beginners, the New Testament, penmanship for poor penmen, popular plays, profitable projects for the farmer and psychology of human conduct.

The school was held two nights a week for four weeks. The class periods lasted for forty minutes. This gave opportunity for each student to take three courses, although most of them took only two.

While there was a group that came to the school with certain definite needs, the majority came with the sole desire of intermingling ideas and forming contacts with others, thus combating the loneliness that still exists on the farm. They wished to learn something beyond what they knew. They desired a glimpse down new vistas. This was typified in the remark of an elderly woman who expressed her opinion in council meeting: "Well, I know one subject I don't want and that's cooking. I've had all I wanted of that in the last seventy-five years. Now I'd like to know something about psychology." In home making, they wished to know how to do things nicely, how to arrange flowers and to set an attractive table. Those taking the chemistry course requested work in astronomy for the next year.

Among the most popular courses were American politics, European politics, landscape gardening, home making projects, easy English, psychology of human conduct and the New Testament.

Besides the academic courses, meetings of the athletic club, a group that meets once a week during the basket ball season; the community play group, which meets once each week in winter, and the community chorus, which meets once a week the year round, were continued.

The enrollment in the night school was distributed as follows: number enrolled in subject matter courses, 194; in the chorus only, 5; in the athletic club only, 10; in the play only, 9, and in the athletic club and play, 5, with a total enrollment of 223.

The group was far from being homogeneous. Of 157 recorded ages, the range was: eighteen to nineteen years, 18; twenty to twenty-nine, 33; thirty to thirty-nine, 38; forty to forty-nine, 31; fifty to fifty-nine, 22; sixty to sixty-nine, 14; seventy, 1. The numbers of men and women enrolled were practically the same, 111 men and 112 women.

In educational background, a range as wide as the age range was found. From 177 records of school attendance this information was acquired: number of high school graduates and above, 68; attending beyond the eighth grade, 41; attending the eighth grade, 43; attending the seventh grade, 12; attending the sixth grade, 6; attending the fifth grade, 3; attending the fourth grade, 2; attending for one year, 1; attending for three days, 1.

The highest degree was A.B.

With such a divergence of age and preparation, class work was of necessity simpler than it might otherwise have been. Classes were conducted for the most part on a conversational lecture basis.

In order to prevent boredom among better prepared members of his class, the instructor in farm chemistry asked these members to assist with tests. In addition, a simple course in soils and fertilizers was given.

How the Students Reacted

In home economics, the instructor had a mimeographed list of topics ready for the women to choose from. Since many interests were indicated in this preliminary survey, it was decided to present a smattering of a number of things and to consider the work of the first year as introductory. Lessons were given on irons and ironing boards; getting the dollar's worth in buying clothes (especially with reference to bargain counters); dieting and overweight (one woman who weighed 250 pounds should have weighed 150). The women were weighed and measured to begin with, and a health score was made. The theory and principles of diet were applied. The women were taught to make salads and salad dressings.

Since most of them were not eating enough vegetables, a canning budget was prepared and plans were made for raising sufficient vegetables for winter use. Different forms of table service were taught, with emphasis upon family service.

As a result of the lesson on irons, one woman went about trying her neighbors' irons for the scorch pattern. "I don't want to buy that kind," she said. "It heats only at the tip, while the other heats too much in the heel."

The man voiced an objection to salads. "We feed that to the cows," he said. The answer was, "If the salad is good enough, a man won't mind being a cow."

In commenting on the practice of drawing water off vegetables to give to the pigs, the instructor said, "Why do you treat your pigs better than your girls and boys?"

After the lesson on clothes buying, the women were observed looking over their own coats to see if sufficient seams had been left and if the cut had been made the right way of the goods.

The home economics instructor had been a farm girl. She understood the problems the farm woman has to face and made her work practical. At the same time, because of her understanding, she was able to introduce some of the niceties that add to the pleasure of living. Her chatty method of instruction disarmed criticism. Each woman was given something to do that she could do well. For the final meeting, the women had charge of a tea that was given for all members of the night school.

Another year a question box might be a part of the home economics program. It was felt that some women hesitated to ask questions. The older women were embarrassed before the young women of eighteen or twenty. One woman finally said, "I've been wanting to ask you for a long time, is it right to eat the lettuce with your salad?"

The effect of the household training was soon noticeable among the girls of the day classes. One remarked, "My mother says just like you do. We have to do this way at home now."

The procedure followed in the landscape gardening course was for each member of the class to bring a sketch of his home grounds, done to scale on cross section paper. For about three quarters of the time, the set-up and philosophy of modern landscape gardening were presented. The rest of the time was given over to showing how designs might be carried into effect and adapted to individual farm layouts. The designs were made with the idea of carrying them into effect as soon as finances permitted. Simplicity and suitability were stressed.

These students are busy making pottery at an evening class in the Eastern High School, Detroit.

In the course on modern plays, the instructor had an opportunity to show that the pointing of morals is not the sole purpose of a book or play. Members of the class showed a remarkable gain in grasping what the author was trying to do.

The plays were studied frankly for enjoyment. Because of a lack of library material, it was necessary to study plays of more than one act, though it was felt that a shorter play would be better, as

carry over was difficult. No preparation was demanded. Most of the night school students seemed afraid to sign up for courses in which they would be expected to do outside work. When plays were read in class, however, those most afraid to talk frequently indicated a desire to participate. One woman who was not given a part to read showed real disappointment. Some of the plays studied were: "The Work House Ward" (Lady Gregory); "The Admirable Crichton" (Barrie); "Milestones" (Bennett); "Riders to the Sea" (Synge), and "Caste" (Robertson).

The class was informed what other plays by each author were available, and incidental mention was made of books for home reading. The group was sounded out as to whether it would care for a course on popular modern authors next year, but the members appeared to be dismayed at the work implied in the reading of so many books. Interest in reading must come gradually. The people of the community are not readers and perhaps have little time for reading.

The Effect on the Community

The teacher of correct English conducted one of the most popular classes of the night school. It began with an enrollment of thirty-three and ended with forty-five. Because of her experience with children from these farm homes, the instructor knew the grammatical errors to expect from the parents and so was able to give direct help. She knew that the principal parts of verbs constituted a stumbling block. She knew "was" and "were" to be especially troublesome. The class asked help on other words, such as "lie" and "lay," "shall" and "will."

To prevent embarrassment, no individual recitation was demanded. Blackboard drill, written tests and oral work in concert were employed. Individual help was given in conference. After night school ended, members of this class were heard correcting each other's speech in community gatherings.

The instructor in European politics remarked that he found the rural group much more liberal than he had expected. He said that he was prepared to hold himself in check, to teach falsehood in order to retain good will. He found instead a group surprisingly tolerant even on religious and political questions. The class voted that because of lack of time controversial matters be discussed after the class period was over. One old fellow whom no one would have suspected of reading at all was found to have a wide knowledge of economics.

Habit formation was one of the principal topics of discussion in child care. The young mothers who made up the class said that they had never had an opportunity to study the child from the viewpoint of psychology. Sex hygiene instruction in the home and a brief study of human anatomy were included among the lessons. One class hour was devoted to questions handed in by the women relating to their own experiences. These were subsequently submitted to experts in the particular fields concerned.

Another year, the athletic club, chorus and study of plays will be discontinued during the sessions of the night school because of conflicts. Questionnaires given out at the close of the school showed the community to be unanimously in favor of a school being held the following year. The majority voted for a night school of the same duration, eight nights, two a week for four weeks. A longer course would prove a hardship for teachers.

Even the instructors who felt most the increased load entailed by the night school agreed that it had benefited the community, opened up new worlds and offered good use for leisure. Some suggested that a charge sufficient to permit relief at least from clerical work might be an advantage. Others, however, expressed a fear that any suggestion of a fee might defeat the purpose of the school.

In regard to the effect of the night school on the day school, increased interest and cooperation on the part of the parents and increased understanding on the part of the teachers were noticeable.

President Hoover Writes Foreword to George Washington Book

President Hoover has written the foreword to the first volume of the "Writings of George Washington," the memorial edition which was authorized by a specific act of Congress to commemorate the 200th anniversary of the birth of George Washington.

The first volume has been completed and will be ready for distribution in a few weeks, according to the division of information and publication, George Washington Bicentennial Commission.

President Hoover, who is chairman of the George Washington Bicentennial Commission, says in his foreword that "until recently no readable biography of George Washington in reasonable compass made him stand for what he was—the most potent human and intellectual force in a firmament of American intellect."

This is the first volume of the memorial edition which will be of some twenty-five volumes. The work is being edited by Dr. John C. Fitzpatrick.

How Ninety-Four Schools Divided Their Floor Area

A study of the types of space provisions found in junior high schools in a ten-year period, based on data gathered from schools throughout the country

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THE purpose of the present study is to indicate the various types of space provisions found in the plans of junior high schools recently erected and to consider the capacity of the building unit as it is related to these facilities.

The data are gathered from a tabulation of the types of space provisions that appeared in the plans of 94 junior high schools reproduced in the twenty volumes of the *American School Board Journal* during the ten-year period 1920-29. The plans of twelve other buildings could not be included because they were too small to be read with a reading glass, because the names of the rooms were too faint or blurred, and because in three instances the plans for at least one or more of the floors had been omitted. For each set of plans the various types of space provisions, excluding fuel rooms, boiler rooms, fan rooms, stairways, corridors, vestibules and ash storage pits were carefully listed on mimeographed sheets and checked. These data were summarized and the frequencies indicated for each type of space provision, and the percentages of frequencies of the different groups of schools with such facilities are indicative of the numerical importance of the various provisions.

Scope of Study Was Far-Reaching

The plans utilized were those of junior high schools in 72 communities of 25 states. The towns range in size from a village of several thousand to a city of a million population, although one-half of the schools are in cities the populations of which were between 15,000 and 100,000. The states range from Massachusetts to California and from Wisconsin to Alabama. The communities are widely scattered and are representative of the country as a whole. The cities are distributed as follows: Middle Western states, 27; Western states, 14; Eastern states, 13; Southern states, 10, and New England states, 8.

The data were tabulated according to the size of the school. The capacities were taken from the accompanying description about each of the buildings with the exception of seventeen schools, in which cases this information was obtained directly by an inquiry to the principals. Care was taken to get these figures on the basis of the number of pupils the building was constructed to accommodate, rather than the number enrolled at the time.

The distribution of the 94 schools according to their rated capacities is presented in Table I. They range in size from a village junior high school with a capacity of 250 pupils to a city junior high school having a capacity of 2,200 pupils. There is a difference of 200 pupils in the capacities of the median building erected in the first five years compared with the median building constructed in 1925-29. The distribution of these schools suggests that if a school of 1,000 pupils were taken as a division point, the two groups of schools

TABLE I—DISTRIBUTION OF THE RATED CAPACITIES OF 94 JUNIOR HIGH SCHOOLS CONSTRUCTED IN THE TEN-YEAR PERIOD 1920-29

Capacity	*1920-24*	*1925-29*	*Total*
200- 399	0	1	1
400- 599	8	4	12
600- 799	12	10	22
800- 999	3	8	11
1,000-1,199	8	7	15
1,200-1,399	9	10	19
1,400-1,599	1	3	4
1,600-1,799	0	3	3
1,800-1,999	1	2	3
2,000-2,199	1	2	3
2,200-2,399	0	1	1
Totals	43	51	94
Capacity of the median building	900	1,100	1,013

TABLE II—PERCENTAGE OF PLANS CONTAINING VARIOUS SPACE PROVISIONS FOR CLASSROOMS AND STUDY HALLS

Space Provisions	*1920-24*			*1925-29*			*1920-29*		
	Under 1,000	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*
Number of plans in group	23	20	43	23	28	51	46	48	94
Classrooms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Study (rooms) halls	43.5	40.0	41.9	8.7	60.7	37.3	26.1	52.1	39.4
Open air classrooms	8.7	15.0	11.6	....	....	....	4.3	6.3	5.3
Coaching rooms	....	5.0	2.3	....	3.6	2.0	....	4.2	2.1
Visual instruction rooms	4.4	....	2.3	....	3.6	2.0	2.2	2.1	2.1

would be approximately equal. In the remainder of this study the buildings with capacities of less than 1,000 pupils are referred to as smaller schools and those with capacities over that number are called larger schools.

The total number of space provisions found in the plans of the 94 junior high schools analyzed was 166. The greater number of space provisions in the larger schools (136 as contrasted with 98 different space provisions in schools with capacities of less than 1,000 pupils) indicates the superiority of the larger units in making available differentiated facilities. If to the 166 different space provisions found in this study are added the provisions for corridors, stairways, flues and the various service system facilities, it is likely that the total number would be well over 200 different types.

Classrooms or recitation rooms as they are sometimes designated were found in the plans of all 94 buildings. In three instances they were listed according to the subject, such as English, history or mathematics. Study halls were present in two-fifths of these buildings, but were found in twice as many large schools as in the smaller buildings. Five schools had open air classrooms and these schools were erected in the early half of the ten-year period. No schools erected in the five-year period, 1925-29, made such provisions. Two schools each made provision for coaching and visual instruction rooms.

The important place that science instruction occupies in these junior high schools is suggested by the fact that 80 per cent of the schools under 1,000 capacity and 100 per cent of those schools with capacities over 1,000 pupils have provided for general (elementary) science laboratories.

Demonstration-lecture rooms found in about one-fourth of these schools were present in about equal proportions of the buildings erected in the first and second five-year periods and among the large and small units. Apparatus rooms occurred twice as frequently in the larger schools as in the smaller ones. The small percentage of schools with dark rooms, supply rooms and workrooms may possibly be accounted for by the fact that while these rooms appear under a single name they might easily serve for multiple use.

A problem closely related to that of space provisions for the sciences is that of the utilization of these specialized facilities, since the efficient and effective use of space is an important factor in reducing school costs. In his investigation of the utilization of the various types of high school rooms, Morphet found that the average percentage of utilization of science laboratories was between 52 and 76 per cent of the total class periods, as against an average utilization ratio of 86 per cent for general classrooms.[1] For smaller high schools of less than 500 pupils these utilization ratios are no doubt even lower.

A satisfactory science laboratory for the small high school with a single science teacher has been suggested by Shigley.[2] This arrangement requires slightly less than the area of two standard classrooms and provides space at one end of the large room for six four-pupil laboratory tables. At the other end are two rows of recitation chairs placed between the instructor's demonstration desk and the pupils' work tables. Adjoining the laboratory room are the workroom, which may serve also as an office for the instructor, and the supply room, which may also meet the need for a dark room.

The study revealed twenty-six different types of space provisions adapted to the various forms of the industrial arts, nineteen of which appeared in two or more schools. The following special rooms were provided in but one building each: advanced woodwork shop, advanced machine shop, lecture room and cement, wireless, radio and gas engine shops. All but one of these 7 rooms were found in the schools with capacities of over 1,000 pupils and 5 of the 7 were in buildings erected in the second five-year period. The more common types of space provisions made for the industrial arts group are presented in Table III.

There has been relatively little change in the proportion of schools that supply the basic facilities of the woodwork shop, the mechanical drawing room and the stockroom over the ten-year

period, irrespective of the size of the school. The decrease in the percentage of the larger schools with woodwork shops is more than compensated for by the increases in the number supplying special facilities such as printing, sheet metal, automobile, machine and electrical shops. This trend suggests a departure from the older program dealing exclusively with woodwork toward a more diversified group of industrial experiences.

The various types of space provisions for home economics are presented in Table IV. The basic facilities for home economics and clothing and food laboratories were supplied in about four-fifths of the smaller buildings and were almost universal in those units with capacities over 1,000 pupils. There was a slight increase in the percentage of schools providing these laboratories in the second five-year period as against the period 1920-24. A comparison of the percentage of schools having these laboratories for home economics and the figures for industrial arts facilities (Table III) shows that the rooms for the former subject were provided more frequently in the plans of this group of schools. Dining rooms were present in two-thirds of the total number of schools but were found in 43 or 89.6 per cent of the schools with capacities over 1,000 pupils as against 20 or 43.5 per cent of the smaller units.

The most common types of space provisions for the commercial subjects are set forth in Table V. If we compare Table V with Tables III and IV we find that the proportion of schools with facilities for the commercial subjects is less than one-half, while almost nine-tenths made space provisions for home economics and about three-fourths were planned to provide work in the industrial arts. It is of course possible that in a number of junior high schools in which no facilities were indicated, it was planned to use regular classrooms for these subjects or that these subjects were taught in conjunction with a near-by senior high school. It is of interest to note that the space provisions for these subjects were supplied in a considerably larger proportion of junior high schools in this study than Koos found for the group of high schools constructed in the period 1908-17.[3] Of 156 schools, he found that the percentages of the various space provisions were as follows: typewriting rooms, 29.4; commercial rooms, 26.3; bookkeeping rooms, 17.9; stenography rooms, 13.4; stenography and typewriting rooms, 3.8.

The data in Table V suggest that rooms for the special subjects, bookkeeping, stenography and typewriting, were provided in a considerably greater number in the larger schools than in the units under 1,000 pupils' capacity. Special rooms for bookkeeping, typewriting and stenography were designed for 63, 52 and 25 per cent, respectively, of the schools with capacities of over 1,000 pupils, as against 22, 15 and 7 per cent of the smaller schools. With the exception of the separate stenography room there were slight changes in the percentages of schools with the main space provisions between 1920-24 and 1925-29. Offices for instructors, office practice rooms and handwriting rooms were confined entirely to the larger schools constructed since 1925.

Only two types of space provisions for the fine

TABLE III—PERCENTAGE OF PLANS CONTAINING VARIOUS SPACE PROVISIONS FOR INDUSTRIAL ARTS

Space Provisions	*1920-24*			*1925-29*			*1920-29*		
	Under 1,000	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*
Number of plans in group	23	20	43	23	28	51	46	48	94
Woodwork shop	82.7%	70.0%	76.8%	78.3%	71.4%	74.5%	80.4%	70.8%	75.5%
Mechanical drawing room	30.5	90.0	58.2	30.5	82.1	58.8	30.4	85.4	58.5
Stock room	52.2	65.0	58.2	30.5	60.7	47.0	41.3	62.5	52.1
Print shop	34.8	70.0	51.2	8.7	60.7	37.3	21.7	64.6	43.6
Finishing room	17.4	40.0	27.9	30.5	46.4	39.2	23.9	43.7	34.0
Sheet metal shop	17.4	55.0	34.9	17.4	42.8	31.4	17.4	47.9	33.0
Automobile shop	13.1	40.0	25.6	13.1	32.1	23.5	13.0	35.4	24.5
Machine shop	8.7	40.0	23.3	8.7	32.1	21.6	8.7	35.4	22.3
Instructor's office	13.1	20.0	16.3	21.8	28.6	25.5	17.4	25.0	21.3
Tool room	8.7	40.0	23.3	17.4	21.4	19.6	13.0	29.2	21.3
Electrical shop	....	15.0	7.0	13.1	35.7	25.5	6.5	27.1	17.0
General shop	....	5.0	2.3	26.1	28.6	27.4	13.0	18.7	16.0
Blue print room	....	20.0	9.3	....	25.0	13.7	....	22.9	11.7
Supply room	4.4	25.0	14.0	....	....	....	2.2	10.4	6.4
Bookbindery	....	....	....	....	17.9	9.8	....	10.4	5.3
Paint shop	....	5.0	2.3	....	7.1	3.9	....	6.3	3.2
Forge shop	4.4	5.0	4.7	....	....	....	2.2	2.1	2.1
Home mechanics shop	....	....	....	....	7.1	3.9	....	4.2	2.1
Planer room	....	....	....	....	7.1	3.9	....	4.2	2.1

arts, an art room and a music room, were found in more than a fourth of the plans. Art rooms were more frequently provided than were other special rooms. The figures seem to indicate that special rooms for art and music are on the increase and that they are supplied more commonly in the larger buildings. Band rooms, modeling rooms, instructors' offices and dramatic art rooms were found only in the larger schools constructed in the last five-year period. In addition to the various provisions listed, space was provided in at least one of the larger schools for a kiln room, a music library, an orchestra practice room and a vocal music room.

Libraries were provided in 86 or almost 92 per cent of the junior high schools considered in the present study. It is surprising that in these specially designed junior high schools 8 buildings did not make provision for this valuable adjunct to the work of this new unit. The importance and service of the library to the junior high school have been indicated by Koos[4] who stated:

"The possibility of enlarging the scope of education of youth in these years through adequate library service matches the need of accomplishing the enlargement so fitly as to warrant vigorous effort at providing the facilities and pressing them into use. The expanded program of studies, the enrichment of content within the subjects, and the improved methods of teaching—all of which demand excursions beyond the confines of the textbook—the opportunities of exploration in wide variety, the adaptation of the program to differences in ability and interests, the establishment of habits of wholesome recreational reading, and the varied reading needs in certain of the allied activities are some of the modifications brought by the new school which call for a much augmented library situation and service as compared with that provided in the corresponding grades of the older school."

A librarian's workroom was found in 13 per cent of the smaller and in 37.5 per cent of the larger schools, although there was no difference

TABLE IV—PERCENTAGE OF PLANS CONTAINING VARIOUS SPACE PROVISIONS FOR HOME ECONOMICS

Space Provisions	1920-24 Under 1,000	1920-24 Over 1,000	1920-24 Total	1925-29 Under 1,000	1925-29 Over 1,000	1925-29 Total	1920-29 Under 1,000	1920-29 Over 1,000	1920-29 Total
Number of plans in group	23	20	43	23	28	51	46	48	94
Food laboratory	78.3%	95.0%	86.1%	82.7%	100.0%	92.1%	80.4%	97.9%	89.4%
Clothing laboratory	65.3	100.0	81.4	91.4	92.8	92.1	78.3	95.8	87.2
Dining room	34.8	90.0	60.5	52.2	89.3	72.5	43.5	89.6	67.0
Fitting room	21.8	45.0	32.6	30.5	53.6	43.1	26.1	50.0	38.3
Pantry	30.5	70.0	48.8	4.4	21.4	13.7	17.4	41.7	29.8
Bedroom	17.4	60.0	37.2	8.7	35.7	23.5	13.0	45.8	29.8
Laundry	17.4	30.0	23.3	17.4	17.9	17.6	17.4	22.9	20.2
Supply room	....	15.0	7.0	39.2	17.9	27.4	19.6	16.7	18.1
Kitchen	13.1	10.0	11.6	8.7	21.4	15.7	10.9	16.7	13.8
Bathroom	8.7	15.0	11.6	4.4	14.3	9.8	6.5	14.6	10.6
Living room	....	10.0	4.7	8.7	21.4	15.7	4.3	16.7	10.6
Instructor's office	....	10.0	4.7	13.1	14.3	13.7	6.5	12.5	9.6
Millinery room	8.7	5.0	7.0	....	17.9	9.8	4.3	12.5	8.5
Lunch and sewing room	8.7	....	4.7	....	....	....	4.3	....	2.1

TABLE V—PERCENTAGE OF PLANS CONTAINING VARIOUS SPACE PROVISIONS FOR COMMERCIAL SUBJECTS

Space Provisions	1920-24 Under 1,000	1920-24 Over 1,000	1920-24 Total	1925-29 Under 1,000	1925-29 Over 1,000	1925-29 Total	1920-29 Under 1,000	1920-29 Over 1,000	1920-29 Total
Number of plans in group	23	20	43	23	28	51	46	48	94
Bookkeeping room	30.5%	60.0%	44.2%	13.1%	64.3%	41.2%	21.7%	62.5%	42.6%
Typewriting room	21.8	50.0	34.9	8.7	53.6	33.3	15.2	52.1	34.0
Stenography room	4.4	20.0	11.6	8.7	28.6	19.6	6.5	25.0	16.0
Stenography and typewriting room	8.7	5.0	7.0	13.1	7.1	9.8	10.9	6.3	8.5
Banking room	4.4	15.0	9.3	....	14.3	7.8	2.2	14.6	8.5
Instructor's office	....	....	....	....	10.7	5.9	....	6.3	3.2
Office practice room	....	....	....	....	10.7	5.9	....	6.3	3.2
Handwriting room	....	....	....	....	7.1	3.9	....	4.2	2.1

TABLE VI—PERCENTAGE OF PLANS WITH VARIOUS AUDITORIUM SPACE PROVISIONS

Space Provisions	*1920-24*			*1925-29*			*1920-29*		
	Under 1,000	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*
Auditorium	69.6%	75.0%	72.1%	74.0%	92.8%	84.3%	71.7%	85.4%	78.7%
Balcony	60.9	80.0	69.8	56.6	89.3	74.5	58.7	85.4	72.4
Dressing rooms	56.6	80.0	67.5	30.5	71.4	52.9	43.5	75.0	59.6
Projection booth	52.2	50.0	51.2	43.5	82.1	64.7	47.8	68.7	58.5
Ticket booth	4.4	15.0	9.3	8.7	17.9	13.7	6.5	16.7	11.7
Orchestra pit	8.7	25.0	16.3	....	14.3	7.8	4.3	18.7	11.7
Combined auditorium-gymnasium	21.8	5.0	14.0	17.4	....	7.8	19.6	2.1	10.6
Storage rooms	4.4	5.0	4.7	....	21.4	11.8	2.2	14.6	8.5
Organ gallery	....	10.0	4.7	....	....	....	....	4.2	2.1

in the percentage of schools for which this provision was made in the two construction periods. Conference rooms were provided in almost a fifth of the schools and are definitely on the increase; they were present in almost a third of the schools constructed since 1925, while they were designed for only 7 per cent of the schools erected in the earlier five-year period. Stack rooms were provided for in over a fifth of the larger schools and in 6.5 per cent of the smaller buildings. Strayer and Engelhardt recommend stack rooms as being necessary only in a very large school.[5]

Auditorium facilities were found in approximately nine-tenths of the buildings. In 78.7 per cent of the schools the auditorium was a single unit and in one-tenth of the total number it was of the combination auditorium-gymnasium type. Provisions for auditorium units increased in frequency from 72.1 per cent of the schools of the first five-year period to 84.3 per cent of the buildings of the second period. They likewise showed an increase in the larger schools. The combination type was confined almost entirely to the smaller schools, with a single exception, which was a building with a capacity of 1,000 pupils. The capacity of the median school with this arrangement was 625 pupils.

Dressing rooms and projection booths are two accessories that were provided by more than one-half of these schools. The proportion of buildings with dressing rooms decreased from 67.5 per cent in 1920-24 to about 53 per cent in the second five-year period, although they were found in three-fourths of the larger buildings and in only 44 per cent of the schools with capacities of less than 1,000 pupils. Projection booths appeared in greater proportions in the buildings erected in the last five-year period and were provided in over two-thirds of the larger buildings as against slightly less than one-half of the schools with capacities

TABLE VII—PERCENTAGE OF PLANS CONTAINING VARIOUS PHYSICAL EDUCATION AND ACCESSORY SPACE PROVISIONS

Space Provisions	*1920-24*			*1925-29*			*1920-29*		
	Under 1,000	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*
Boys' locker rooms	63.5%	75.0%	69.8%	87.0%	85.7%	86.3%	76.1%	81.2%	78.7%
Boys' shower rooms	63.5	75.0	69.8	87.0	85.7	86.3	76.1	81.2	78.7
Girls' locker rooms	69.6	60.0	65.2	87.0	85.7	86.3	78.3	75.0	76.6
Girls' shower rooms	69.6	60.0	65.2	87.0	85.7	86.3	78.3	75.0	76.6
Boys' directors' office	34.8	80.0	55.8	56.6	82.1	70.6	45.7	81.2	63.8
Girls' directors' office	26.1	80.0	51.2	39.2	78.5	60.8	32.6	79.2	56.4
Gymnasium	39.2	25.0	32.6	56.6	32.1	43.1	45.7	29.2	38.3
Apparatus room	....	50.0	23.3	....	85.7	47.0	....	70.8	36.2
Boys' gymnasium	13.1	50.0	30.3	21.8	53.6	39.2	17.4	52.1	35.1
Girls' gymnasium	13.1	50.0	30.3	21.8	53.6	39.2	17.4	52.1	35.1
Gymnasium gallery	34.8	20.0	27.9	30.5	46.4	39.2	32.6	35.4	34.0
Swimming pool	13.1	30.0	20.9	....	14.3	7.8	6.5	20.8	13.8
Corrective gymnasium	....	....	....	4.4	17.9	11.8	2.2	10.4	6.4
Visiting team room	4.4	5.0	4.7	4.4	7.1	5.9	4.3	6.3	5.3
Towel supply room	....	5.0	2.3	....	10.7	5.9	....	8.3	4.3
Girls' dressing room	....	15.0	7.0	....	....	....	....	6.3	3.2
Boys' drying room	....	....	....	....	7.1	3.9	....	4.2	2.1
Boys' corrective gymnasium	....	10.0	4.7	....	....	....	....	4.2	2.1
Girls' corrective gymnasium	....	10.0	4.7	....	....	....	....	4.2	2.1

TABLE VIII—PERCENTAGE OF PLANS CONTAINING VARIOUS SPACE PROVISIONS FOR COMFORT, TOILET AND HEALTH SERVICE ROOMS

Space Provisions	*1920-24*			*1925-29*			*1920-29*		
	Under 1,000	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*
Boys' toilet rooms	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Girls' toilet rooms	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Teachers' rest room	69.6	100.0	83.7	91.4	89.3	90.2	80.4	93.7	87.2
Medical (nurse's) room	47.9	65.0	55.8	34.8	71.4	54.9	41.3	68.7	55.3
Girls' rest room	21.8	40.0	30.3	30.5	46.4	39.2	26.1	43.7	35.1
Examination room	21.8	35.0	27.9	17.4	42.8	31.4	19.6	39.6	29.8
Men teachers' room	8.7	25.0	16.3	30.5	39.3	16.3	19.6	33.3	26.6
Physician's office	13.1	25.0	18.6	....	35.7	19.6	6.5	31.2	19.2
Dental clinic	8.7	20.0	14.0	....	25.0	13.7	4.3	22.9	13.8
Boys' rest room	....	10.0	4.7	....	7.1	....	....	8.3	4.3

under 1,000 pupils. Projection booths were provided more frequently in the junior high schools constructed since 1925, almost two-thirds being thus equipped, as compared with the same facilities for high schools constructed in 1926-28. Spohn's study showed that projection booths were placed in 54 per cent of these high schools.[6]

Seven types of space provisions for physical education were provided in more than one-half of the schools. Including the 10 combined auditorium-gymnasiums listed in Table VI gymnasiums were provided in 84 per cent of the 94 schools. There were single gymnasium units in almost two-fifths of the buildings and of these 36 units, 22 or almost two-thirds, were in the smaller units. Separate gymnasiums for boys and girls were found in 33 schools or slightly over one-third of the total number. The pupil capacity of the schools with single gymnasiums ranged from 400 to 1,500, with a median capacity of 835, while the capacities of the double gymnasium buildings ranged from 700 to 2,200 and the median school of this group was one with a capacity of 1,275 pupils. In spite of the difference between these medians there was a considerable overlapping in the distributions of the pupil capacities of these two groups of buildings. Strayer and Engelhardt recommend separate gymnasiums for boys and girls in high schools that have pupil enrollments over 800.[7]

From the capacity of the median school of the single gymnasium group it is apparent that almost one-half of these buildings exceeded the 800 pupil standard.

Facilities for locker and shower rooms were designed for over three-fourths of the schools, with only slight differences between the smaller and larger schools. These facilities were provided in 86 per cent of the schools constructed in the last half decade and in about two-thirds of the buildings erected in 1920-24. Offices for the boys' physical directors were provided in 60 buildings or 63.8 per cent of the total, and offices for girls' physical directors were found in 53 schools or 56.4 per cent of the total number. These offices showed increases over the ten-year period and were provided in the larger schools about twice as frequently as in the smaller units. Apparatus rooms were present in about a third of the schools but were confined entirely to schools whose capacity exceeded 1,000 pupils. Corrective gymnasiums which appeared in 6.4 per cent of the buildings were restricted almost entirely to the larger schools and of these 6 corrective units, 4 were in schools erected since 1925. Swimming pools were found in 13 buildings or 13.8 per cent of the total number of schools, and in one additional building there were separate pools for boys and girls.

Four types of space provisions for comfort and

TABLE IX—PERCENTAGE OF PLANS CONTAINING VARIOUS SPACE PROVISIONS FOR LUNCH ROOM FACILITIES

Space Provisions	*1920-24*			*1925-29*			*1920-29*		
	Under 1,000	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*
Cafeteria	60.9%	70.0%	65.2%	39.2%	89.3%	66.6%	50.0%	81.2%	66.0%
Kitchen	34.8	70.0	51.2	30.5	96.4	66.6	32.6	85.4	59.6
Storeroom	....	10.0	4.7	17.4	57.1	39.2	8.7	37.5	23.4
Teachers' lunch room	....	30.0	14.0	4.4	39.3	23.5	2.2	35.4	19.2
Cafeteria office	....	10.0	4.7	....	17.9	9.8	....	14.6	7.4
Boys' lunch room	....	....	....	8.7	3.6	5.9	4.3	2.1	3.2
Girls' lunch room	....	....	....	8.7	3.6	5.9	4.3	2.1	3.2

health service rooms were found in more than one-half of the plans. Toilet rooms were found most frequently, being planned for all of the schools. Teachers' rest rooms were provided in 87 per cent of the schools and a medical (nurse's) room in 55 per cent. Both of these provisions were found in greater proportions of the larger schools than of the smaller buildings. Table VIII indicates that separate girls' rest rooms were found in over a third of the schools, showing a percentage of 43.7 in schools over 1,000 capacity and 26.1 in the smaller schools. Examination rooms attached to the medical room or the physical directors' office showed a considerable increase in the larger schools and were provided in about 30 per cent of the total number of buildings.

The figures in Table IX set forth the facts concerning the various provisions for the cafeteria and related facilities. The percentages of buildings with cafeterias were virtually the same for the two five-year periods, although only half of the smaller schools provided cafeterias as against four-fifths of the larger schools. Separate lunch rooms for boys and girls were found in three schools constructed since 1925. When the percentages for the cafeterias and boys' and girls' lunch rooms are added, it will be seen that almost 70 per cent of these schools provide lunch room facilities in their plants. This percentage is slightly smaller than Terry[8] found in his study of space provisions of junior high schools, in which he stated that 84 per cent of the schools provided cafeterias.

Kitchens were found in 41 of the 48 buildings with capacities over 1,000 pupils, and in less than a third of the smaller schools or in about three-fifths of the total group of buildings. Storerooms and teachers' lunch rooms were found in about a fifth of the buildings, but were restricted mainly to the larger schools. Both of these facilities have a much larger representation among the buildings erected in the last five years. Cafeteria offices were designed for seven schools of the larger group.

The character and extent of the various space provisions for administrative offices are presented in Table X. The five facilities provided for in more than half of the plans were the principal's office, the outer office, the reception room, the vault and the supply room. Because the plans did not specifically indicate the purpose, there was some difficulty in classifying the reception rooms and the outer offices in several instances. It is believed, however, that the percentages in the table represent the situation. The outer office was found principally in the larger schools, although about a third of the smaller buildings had this facility. It was noticed in a number of plans that the outer office and reception room were separated by an office counter.

Vaults were found in half of the smaller buildings, in almost two-thirds of the larger ones and in slightly less than three-fifths of the total number of schools. Supply rooms attached to the administrative offices were provided in slightly over half of the schools. There was only a slight difference in the percentages of the larger schools and the smaller schools that provided this room. Textbook rooms were made available in slightly

TABLE X—PERCENTAGE OF PLANS CONTAINING VARIOUS SPACE PROVISIONS FOR ADMINISTRATION OFFICES

Space Provisions	*1920-24*			*1925-29*			*1920-29*		
	Under 1,000	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*	*Under 1,000*	*Over 1,000*	*Total*
Principal's office	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Outer office	26.1	100.0	60.5	34.8	100.0	70.6	30.4	100.0	66.0
Reception room	43.5	60.0	51.2	60.9	75.0	68.6	52.2	68.7	60.7
Vault	65.3	40.0	53.5	34.8	82.1	60.8	50.0	64.6	57.5
Supply room	60.9	55.0	58.2	39.2	53.6	47.0	50.0	54.2	52.1
Janitor's room	34.8	55.0	44.2	39.2	53.6	47.0	37.0	54.2	45.8
Textbook room	34.8	45.0	39.5	17.4	46.4	33.3	26.1	45.8	36.2
Built-in lockers	8.7	15.0	11.6	52.2	25.0	37.3	30.4	20.8	25.5
Assistant principal's office	....	30.0	14.0	17.4	46.4	33.3	8.7	39.6	24.5
Locker-alcoves	13.1	30.0	20.9	4.4	14.3	9.8	8.7	20.8	14.9
Teachers' workroom	4.4	15.0	9.3	8.7	21.4	15.7	6.5	18.7	12.8
Student activities room	8.7	25.0	16.3	....	17.9	9.8	4.3	20.8	12.8
Bicycle room	17.4	5.0	11.6	8.7	10.7	9.8	13.0	8.3	10.6
Locker rooms	8.7	10.0	9.3	13.1	10.7	11.8	10.9	10.4	10.6
Superintendent's office	17.4	10.0	14.0	....	7.1	3.9	8.7	8.3	8.5
School board office	13.1	5.0	9.3	....	3.6	2.0	6.5	4.2	5.3
Dean of girls' office	....	....	....	4.4	10.7	7.8	2.2	6.3	4.3
Counselor's office	....	5.0	2.3	....	7.1	3.9	....	6.3	3.2
Department head's offices	....	5.0	2.3	....	3.6	2.0	....	4.2	2.1

over a third of the schools. That they were present in but a fourth of the smaller schools is probably due to the fact that supply rooms also serve for textbook storage. The janitor's room was found in almost a half of the buildings and bicycle rooms were provided in a tenth of these schools.

Naturally the larger schools provided offices for additional staff officers, such as assistant principals, deans of girls and counselors. A study by Reavis and Woellner[9] indicates that 55 to 75 per cent of the high schools with enrollments between 1,000 and 2,000 have assistant principals and deans of girls on their staffs and that 10 to 20 per cent of these schools employ counselors for boys and directors of extra-curricular activities. While these figures are not strictly comparable with those of the present study, they agree in suggesting the tendency of the development of additional staff officers to handle personnel and administrative problems.

How Size Influences Space Provisions

The question of the extent to which the capacity of a school influences the space provisions for the various types of work and the facilities has already been raised. Spaulding points out the physical limitations of the small junior high school in the following quotation:[10]

"The physical equipment of the school plays an important part in determining the effectiveness of teaching, and for the special subjects it furnishes the sole basis for a decision as to what is to be taught. . . . The seriousness of the physical handicaps under which the small school may be placed arises not from these sources but from the fact that no satisfactory substitutes can be found for the other generally accepted practices which they prevent."

The restricting influences of the small unit cannot be settled definitely at this time, but an examination of the percentages of the various types of floor space provided in more than 50 per cent of the schools studied is indicative of the handicaps of the smaller schools with capacities of less than 700 pupils.

It must, of course, be granted that the frequency of appearance of a particular space provision is not in itself the sole criterion by which a particular provision is to be justified. In the evaluation of any provision, other criteria must be considered, such as the degree of differentiation of the curricular offerings, community needs, maintenance costs, the utilization of specialized facilities and the community's financial status. In considering the lower limit for economical and effective administration of a junior high school, Moehlman states:[11]

"The conception of a junior high school in terms of ultimate capacity of less than 800 pupils must result in a curtailment of physical facilities and a development of duplicate facilities to secure efficiency of operation."

A comparison of the percentages of the floor areas in the various size schools indicates that all of the 31 space provisions that appear in at least 50 per cent of the 94 buildings are found in a smaller percentage of the schools with capacities of less than 1,000 pupils. The figures for the schools with capacities below 700 pupils show that an even smaller proportion of these schools have such provisions as are found in the majority of the middle sized schools, and only 16 provisions of the 31 types are found in over half of these small buildings. Some of the schools lack facilities for general science, industrial arts, home economics, art, physical education, the lunch room, the various provisions for administration offices or a library. Moreover, a majority fail to provide such facilities as a mechanical drawing room and a stock room for industrial arts, a dining room for home economics, an art room, dressing rooms and a projection booth for the auditorium, a gymnasium, offices for the physical directors, a kitchen and cafeteria and an outer office, a reception room, a supply room and a vault as a part of the administration offices.

It is apparent that the greater number of smaller junior high schools with capacities of less than 700 pupils are unable to provide the differentiated and specialized facilities required for the curricular offerings on this level. For many smaller communities it is desirable that the junior high school be accommodated in the same building with the senior high school so as to share in the use of the facilities commonly provided for the later high school years. By means of the six-year building unit it is possible for the smaller communities to keep the maintenance and operation costs of their plant facilities and their utilization at a reasonable level and still provide the facilities for the enriched offering of the junior high school.

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How to Organize and Manage a Teachers' Credit Union

This article is a response to inquiries that followed the publication of the article on "Giving Battle to High Interest Money Lenders" in The NATION'S SCHOOLS *for January, 1931*

By J. S. PARKER, Director of Research, The NATION'S SCHOOLS

CREDIT unions operated as cooperative savings and loan organizations have proved their success in many lines of industry and among a few teachers' associations, as was pointed out in the January, 1931, issue of The NATION'S SCHOOLS. Since that study was published, so many inquiries concerning the formation of credit unions have been received that additional information concerning how they may be organized and operated is now given.

A detailed analysis of the administrative procedure in four typical teachers' credit unions is presented in answer to these inquiries. Stress is placed upon one of the most important advantages of credit unions—the elimination of the high overhead costs of small loan finance companies. The data given here should provide all the information that groups interested in the formation of teachers' credit unions or cooperative loan associations are likely to need in order to organize such a unit.

What Is a Credit Union?

A redefinition of the term "credit union" may clarify the purposes of these organizations. Roy F. Bergengren, executive secretary, Credit Union National Extension Bureau, defines it thus: "A credit union is a cooperative society organized within a specific group, managed by officers chosen by and from the group. It functions under strict state supervision and annual examination for the threefold purpose of supplying the members of the group with an excellent system for saving money, of enabling the members with their own money to solve their own short term credit problems and of giving them sound and sure education in the management of their own savings. . . .

"There is a fundamental difference between a credit union and banking institutions in general. All credit union operations are restricted to the membership of the given group. The money comes from the members, is used for loans to members and is managed by boards of directors and committees chosen by and from members, with all earnings reverting to members as dividends. . . .

"The board of directors chooses from its own members the officers, including the treasurer who manages the credit union and is bonded, a credit committee to pass on loans and a supervisory or auditing committee similarly chosen. Credit unions operate under state laws. In each state, some state department has jurisdiction for examination and report, with authority to close a credit union that is improperly managed."

A Supplement to the Banking System

It should be emphasized that the credit union is not intended to compete with the regular banks or to serve as a substitute for them. It is a supplement to the banking system, and attempts to bring credit to teachers at rates more reasonable than those charged by personal finance companies operating under the uniform small loan laws, or by illegal loan sharks.

There are now credit union laws in thirty-two states as follows: Alabama, Arizona, California, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Carolina, Oregon, Rhode Island, South Carolina, Tennessee, Texas, Utah, Virginia, West Virginia and Wisconsin.

There is a form of petition for the right to operate, which must be signed generally by seven citizens (in no state more than twenty) at the time by-laws are submitted. There are forms available for this petition and for the by-laws. If the petition is granted, the members of the originating group perfect their organization by electing officers who must be chosen from the group but not necessarily from the originating members.

The credit union starts when each of the originating group and officers makes his initial payment on his share subscription.

The best way to organize a teachers' credit union is in cooperation with the Credit Union National Extension Bureau. This bureau is financed by Edward A. Filene, Boston, and its work is carried on as a disinterested public service. No charge direct or indirect and no obligation direct or indirect attach to any work done by the bureau. It can make contacts with organizers of prospective credit unions with state representatives who will explain the plan, tell how to obtain a copy of the law and the petition and by-laws and explain the plan to the group. In urgent or important situations, the executive secretary, Mr. Bergengren, will visit and confer with the interested group leaders.

How the Union Functions

Upon the organization of a credit union, the bureau will without charge supply the board of directors with a booklet which tells them of their duties, the credit committee with a booklet describing practice in granting credit and the treasurer with a bookkeeping primer which tells him how to keep his books. The bureau also provides an information service, free. The address of the Credit Union National Extension Bureau is 5 Park Square, Boston.

Most credit unions have a few fundamental rules that are important. Officers usually cannot borrow or become indorsers for borrowers in excess of their holdings of shares in the credit union, plus their deposits. A member has one vote, whatever the amount he may have in the credit union in shares and deposits.

All funds are derived from the members, loans are made exclusively to members, the management is within the membership and the earnings of the credit union are distributed to the members in dividends on shares and interest on deposits. Dividends and interest paid by the average credit union compare favorably with the earnings on deposits in other savings institutions. Overhead expense is kept at a minimum. Every credit union starts in a small way, so that the officers, the directors and the committees may learn about the routine connected with their work before there is any appreciable business. Until the credit union is large enough to pay the treasurer or manager, services are gratuitous. Office space is often donated and rent is always low. It is the policy of credit unions to do business in unostentatious quarters at the lowest expense possible for such organizations.

Applications for loans must be signed. They must set forth the purpose of the loan and other necessary information. The applicant must be a member; if he is not a member but is eligible to membership, he must subscribe to at least one share of stock when the application is filed. If he is already a member, his shares and deposits in the credit union are additional security for his loan or possibly ample security for it. If he has no holdings in the credit union and the credit committee is otherwise satisfied with him as a prospective borrower, the committee will doubtless require that he subscribe to a certain proportional part of his loan in shares, so that as he pays up his loan he pays into the credit union in addition each week something on the shares to which he has subscribed. The result is that, when his loan is paid up, he also has a substantial number of paid up shares in the credit union. The application is filed with the credit committee and must be approved by a majority of its members. The terms of repayment and security are determined by the committee in accordance with the general rules of the credit union and the circumstances involved in the particular case.

Most credit unions have guaranty funds made up of the entrance fees, transfer fees, fines for delinquencies in the payment of shares or the payment on loans and a substantial part of the dividends each year. This fund is carefully segregated from the investment funds of the credit union and serves as a guaranty fund against bad loans. The entrance fee is small and is paid on joining the organization.

What Various Organizations Are Doing

In addition to the capital accumulated by the credit unions and utilized by them for small loans to members, there remains a surplus as soon as the credit union capital passes the normal total loan requirements of its members. Generally the law provides that this surplus may be invested in any investment that is legal for savings banks. This point is not important for young organizations, but well established credit unions often reach the maximum loan requirements of the group before the saturation point in membership is reached.

Application of these general principles to specific teachers' credit unions has been made by organizations in four different cities: Detroit, Kansas City, Mo., Indianapolis, and Seattle, Wash. A summary of the practices of these teachers' credit unions will show what is actually being done.

The personnel of the organizations is perhaps the most important point. In Detroit there are more than 1,250 members, of whom about 800 are

borrowers. In Kansas City there are more than 350 members, of whom about 180 are borrowers. The Kansas City organization is unique in that its board of directors consists of twelve representatives, one for each of the different teachers' clubs of the city. The supervisory and credit committees are chosen at large. The treasurer is bonded for $2,500. There is a membership fee of twenty-five cents and each member must subscribe for at least one share of capital stock. In Indianapolis, there are 287 members out of a teaching force of about 1,800.

Capital stock varies in amount with the size of the city and the age of the credit union. In Detroit, a total of $200,000 is invested, and individual holdings range from $1 to more than $10,000. In Kansas City, shares of stock are valued at $5 each, and there is a total of $30,000 subscribed. The price of shares in Indianapolis is $5 each, and they are purchasable on the weekly payment plan as low as twenty-five cents a payment. Capital stock of the Seattle credit union has grown from $415 in 1927 to $17,570.

Dividend Policies Are Liberal

One interesting provision of the Kansas City Teachers' Credit Union is that the husband, the wife or a blood relative of the first degree of any certificated teacher who is a member of the credit union is entitled to a joint ownership of stock.

Liberal dividend policies feature the credit unions among teachers. Detroit's credit union has consistently paid dividends of 8.4 per cent since its first year. In Kansas City, the dividend rate is 7 per cent, declared semi-annually. The Indianapolis credit union paid dividends of 6 per cent on its capital stock in January, 1930 and 1931—for the two years since its organization. In Seattle the dividend rate has been 7 per cent since 1927. Interest is also paid on deposits. In Detroit the interest rate is 6 per cent compounded quarterly. In Kansas City the interest rate on deposits is the same as that for dividends on capital stock—7 per cent. The Indianapolis Teachers' Credit Union pays 4 per cent interest on deposits.

Charges for loans made to members vary with amounts as well as with the different credit unions. In Detroit the interest rate on loans is 1 per cent per month on unpaid balances. The following schedule is used in Kansas City:

Size of Loan	*Interest Charge, Unpaid Balance*
$50 to $100	1 per cent per month
$150 to $200	1 per cent per month
$250 and $350	9/10 of 1 per cent per month
$400 and more	8/10 of 1 per cent per month

In Indianapolis loans are made to members at an average rate of 8 per cent for the entire amount. The practice in Seattle in the past has been to charge 7 per cent on the full amount of the loan for the full term, to collect interest in advance and to require payments in monthly installments. But the following schedule has been recommended for future use:

Size of Loan	*Interest Charge, Unpaid Balance*
Less than $50	1 per cent per month
$50 to $99	9/10 of 1 per cent per month
$100 and $150	8/10 of 1 per cent per month
$150 and more	7/10 of 1 per cent per month

Various regulations and rules concerning the making of loans are in force in the different credit unions.

Detroit's credit union for teachers requires no security for loans of less than $50. For loans of more than $50, it requires co-makers or collateral. Usually the collateral is a chattel mortgage on personal property, such as a car; a first or second mortgage on real estate or the assignment of a land contract. The manager never refuses to make loans because of a lack of cash. During the summer of 1930, more than $55,000 was borrowed from banks to meet the demand for loans.

Kansas City Teachers' Credit Union also found it necessary to borrow $4,000 from a bank last summer, because the capital stock was inadequate for the demands made upon the organization for loans. Likewise, $50 may be borrowed on the borrower's own signature; greater amounts must be secured by the assignment of bonds, building and loan stock or other negotiable securities, or by having a co-signer. The amount that may be borrowed is not limited by the number of shares owned by the teachers.

How the Money Is Used

Analysis of the loans made by this organization during its first six months of existence shows the significant data summarized in the accompanying table. It is interesting to note that the largest number of loans is for $100, and that there is a comparatively large number of loans for amounts of more than $100.

Purposes for which the money was borrowed, together with the number of borrowers for each, are as follows: to attend summer school, 9; to take up other loans at higher rates of interest, 9; to pay medical, hospital and funeral expenses, 13; to meet payments on real estate, 3; to pay insurance premiums and taxes, 3; to meet current expenses during summer, 6.

Terms of repayment are arranged to suit the individual teacher's convenience. The following example shows the schedule on a $100 loan with in-

terest at the rate of 1 per cent per month on the unpaid balance, date of note being February 1:

	Schedule of Repayment	
Month	*Principal*	*Interest*
March	$10.00	$1.00
April	10.00	.90
May	10.00	.80
June	15.00	.70
July	None	...
August	None	...
September	5.00	1.65
October	10.00	.50
November	10.00	.40
December	10.00	.30
January	10.00	.20
February	10.00	.10
	$100.00	$6.55

It will be noted from this schedule that 15 per cent of the loan is due in June and 5 per cent in September. It will also be noted that the total amount of interest paid is less than the dividends that would be received on $100 worth of stock at the rate of 7 per cent.

Another important point apparent from this schedule is that for a salaried person a loan repaid in monthly installments is cheaper than a bank loan where the full amount must be paid off in one lump sum, because he must save for this payment monthly and thus his savings are idle until the note is due. The Kansas City Credit Union plan allows the monthly saving to be applied immediately on the loan, and thus makes possible a reduction of the rate of interest.

In Seattle loans to teachers have totaled more than $55,000 since 1927. No salaries are paid to officials, but a commission of one-half of 1 per cent on loans made is allowed for bookkeeping expenses. The experience of this credit union has been that March and April are the slack months, during which the capital of the organization is often idle. Because of the need for money to pay taxes and to make summer repairs on homes, May and June are the peak months of business during which the greatest amounts are loaned.

In addition to this seasonal fluctuation in demand, there is a periodicity within each month. In the experience of this credit union, most loans are placed after the twentieth of the month and most payments come in just after pay day (either the last day or the first day of the month). During these fifteen days, the credit union carries a balance which sometimes amounts to $2,000 in its commercial account. In Seattle the average face value of all loans was about $120 and the average term for which loans were made was a little more than six months.

This brief survey of some of the details of administration in the four most successful teachers' credit unions shows that considerable freedom is allowed individual organizations even though the general pattern of organization is more or less alike for all.

It is obvious from this survey that the most potent argument in favor of credit unions is their low cost of operation. Overhead expense is low in all credit unions, and especially low in teachers' credit unions. Office space and equipment, such as adding machines and similar aids, are usually available without cost to officers of the union. Costs of investigation and promotion are eliminated in credit unions. It is obvious that teachers who know one another can loan money to one another without expensive investigations. In most credit unions the only paid officer is the secretary, and his salary is never more than $50 a year.

A credit union has been organized by the Federation of Teachers in Chicago. Financial problems of teachers in this city are complicated by the financial breakdown of the local governmental machinery and the consequent uncertainty concerning the payment of salaries. Because of the peculiar situation concerning salary payments in Chicago, the credit union has a bright future and a steady growth is anticipated.

Adaptations of the Union Idea

One of the most unusual adaptations of the credit union idea is that planned by the Wisconsin Teachers' Association, which will organize a statewide credit union. All members of the association will be eligible to membership in the credit union. B. E. McCormick, secretary of this association, recommended the formation of such a loan organization to the delegate assembly of the association at its meeting in October, 1930. A committee of seven was appointed, with power to study and to organize the Wisconsin Teachers' Association Credit Union. The committee held several meetings, and early in March it completed the organization of this group. Keen interest in the movement was shown by teachers. No campaign for funds was made prior to the organization of the union, but by the time plans were perfected, more than $1,200 had been pledged to subscribe to the initial issues of capital stock. With such an auspicious start, officers of the association are confident that their credit union will succeed.

Similar interest in teachers' credit unions has been taken by the Pennsylvania State Education Association, but a different policy has been adopted regarding the actual organization of credit unions. Officers of this association believe that local credit unions would be more satisfactory and would serve the interests of the teachers better than one established on a statewide basis.

Through the active interest of Mr. Bergengren, a bill to legalize the establishment of credit unions in Pennsylvania was introduced into the state legislature, because the banking laws in force at the time of this bill's introduction did not permit the organization of such a union. If this bill is passed and receives the signature of the governor, steps will be taken to inform the teachers of Pennsylvania concerning the possibilities that are presented to them. It is the plan of the state association officials to act as a source of information and to assist local organizations of teachers to form credit unions wherever local conditions warrant it.

Teachers' groups in Michigan cities have taken the initiative in the formation of cooperative loan associations that aid teachers in financial emergencies. In addition to the organizations reported in the January issue of The NATION'S SCHOOLS, Grand Rapids, Kalamazoo and Ann Arbor have flourishing associations.

In Grand Rapids, loan funds operated by the Teachers' Club are available up to a total of $15,000. From these funds teachers may borrow up to $200 each for one of three purposes: educational travel, school attendance and illness. For the first two purposes, interest at 5 per cent is charged. Loans may be made for six months and may be renewed for six additional months. In cases of illness, no interest is charged for one year. During the school year 1929-30, about $7,600 was borrowed by forty-two teachers. There are about 1,080 teachers in the entire system. This fund was established by bequests and gifts and has been increased by means of benefit entertainments occasionally. Every year there is a slight increase in the number of teachers who borrow.

LOANS MADE BY THE KANSAS CITY TEACHERS' CREDIT UNION DURING ITS FIRST SIX MONTHS

Number of Loans Made	*Amount Borrowed*
4 loans at $50 each	$ 200.00
1 loan at $75	75.00
12 loans at $100 each	1,200.00
1 loan at $125	125.00
3 loans at $150 each	450.00
7 loans at $200 each	1,400.00
5 loans at $250 each	1,250.00
6 loans at $300 each	1,800.00
4 loans at $300 each	1,200.00
TOTAL	$7,700.00

The Kalamazoo Teachers' Club maintains a fund that has been built up from year to year from profits of the Teachers' Club lecture course. The fund now amounts to about $5,000. Interest charges and dues are added from time to time, but local expenses use up this amount. Teachers who have paid their dues are permitted to borrow money in emergencies at 6 per cent with no interest charge for the first thirty days. It is calculated that at least 50 per cent of the Kalamazoo teachers have availed themselves of this privilege during the past year. The fund is different from a credit union because it is maintained strictly as an emergency fund and offers no opportunity for investments by teachers.

Thirty-Two States Have Credit Union Laws

Ann Arbor teachers have a fund that was organized five years ago. It is administered by a permanent committee of three members who make loans, give periodic reports to the club and increase the fund from time to time. The present needs are cared for with about $2,000 in the fund. A teacher may borrow a limited amount from this fund, at 5 per cent interest. The usual arrangement is repayment of 10 per cent of the loan each month.

Another unique phase of credit union activity is the organization at Berea College, Berea, Ky. The Berea Credit Union, which serves students and faculty members of Berea College as well as citizens of the town, has made loans to 524 borrowers, totaling $40,000 since it started doing business in 1924.

Mr. Bergengren writes that the original article on this subject resulted in many inquiries from representatives of groups of teachers in the various states with credit union laws. It is quite likely that a number of teachers' credit unions will develop from the preliminary discussions now going on concerning this subject.

At the present time there are credit union laws in thirty-two states and bills are now pending in seven additional states, as follows: Connecticut, Ohio, Arkansas, Oklahoma, Pennsylvania, Colorado and Washington. Eleven state leagues are in the process of organization, six of which now have permanent offices functioning every day. Approximately 1,400 credit unions in the United States with approximate resources of $46,000,000 are doing an annual small loans business of approximately $65,000,000.

No credit union that has been organized by the Credit Union National Extension Bureau has failed during the industrial depression, or has gone through a process of involuntary liquidation, and no surety company has been obliged to make good on the bond of a treasurer of any credit union organization by this national association. A splendid record for honest and efficient management in times of industrial distress is being established.

Making Finance the Servant Not the Master of Education

Good accounting and accurate budgeting, important as they are, must be recognized and accepted as the mechanical agencies by which the educational process is facilitated

By ARTHUR B. MOEHLMAN, Professor of School Administration and Supervision, School of Education, University of Michigan

THE problem of public educational finance may be approached in a number of ways. First of all, it may be considered in terms of narrow local interests or, more broadly, as a statewide social program. For the practical man who prides himself upon a close understanding of and wide sympathy with current industrial procedure, there is the mechanical method of considering only current fiscal data. For the uncertain and the shortsighted there is the temporarily safe method of expediency. The philosophically inclined will prefer the social viewpoint. My own training and experience definitely range me with the last group in any consideration of the general question of public education finance.

I believe the multitude and the complexity of the questions that arise to-day whenever public education fiscal support is considered are relatively simple and may be logically organized if we consider them in terms of certain fundamental social concepts. In this highly intricate, delicately adjusted and extremely interdependent social order of ours, public education has a definite function. Upon the relative effectiveness of the educational process depend, to a large extent, the continuation of the type and the improvement of the character of government under which our children and our children's children will live.

The Function of Education

The efficiency of a social democracy will be determined ultimately by the degree of balance and nicety of adjustment between the individual as an individual and the individual as a member of the social group. No government can rise far above the quality of its component individual parts. The character of the social group will be determined by the ability of its individual members to contribute to the group welfare. Public education to be truly functional must prepare the individual for successful living in his social environment. He must be allowed to develop his inborn capacities to the greatest possible degree and he must also understand his responsibilities and his privileges as part of the larger social group.

Finance—A Complementary Activity

The question of how much and what kind of public education is needed must be answered in the last analysis by the philosophy of life in which we as individuals believe and which we are able to impress upon our own society. In other words, no program of public education should be finally developed and promulgated except upon the basis of tangible material, social requirements and accepted spiritual values. I believe this to be fundamental to all other contributing factors.

The acceptance of these basic needs and their translation into practice at any given time will be conditioned, first, by the extent of social understanding of the people, their appreciation of the program's importance and their willingness to cooperate in such an enterprise and, second, by the ability properly to finance these needs in any specific local situation. This is the long viewpoint. At any given time and in any particular situation the program may be temporarily modified by a lack of balance in the social budget, by the pressure of powerfully organized antagonistic minorities, by the inefficiency of social organization and by archaic systems of public finance.

From this viewpoint, public educational finance is a facilitating agency through which the social needs of the state may be adequately satisfied. Instead of dominating the situation as a master, it becomes only an essential complementary activity. It is also well to consider that school finance is only one aspect of a very general and very wide program. All of the activities undertaken by the

state for the welfare of the group, including health and sanitation, police, public works, good roads, welfare, conservation, research and recreation, are also important parts of the social program and must be included in the development of the entire plan. I am inclined to feel that we as schoolmen have not in the past taken a broad enough view of this wider problem and have been more in conflict than in whole-hearted cooperation with the balance of the state's social program. There has been too much competition both between communities and between higher institutions. It is surprising that our lack of articulation has not resulted in greater losses to public education. On the other hand, it must be admitted that the process has resulted in definite growth.

If finance is a complementary activity, what then are budgeting and accounting? A budget, as a program, is merely a translation of approved social policies and procedures into terms of money. A budget, as a legally adopted legislative procedure of allowable expenditures, is a financial translation of approved policies and procedures coordinated in terms of both needs and immediate resources. A working budget almost always represents a compromise between the school program as conceived in law and developed by a local district and what is actually possible under existing economic conditions in an actual situation. Accounting is a mechanical means for recording revenue and disbursements and is one of the statistical bases upon which the current program or budget is developed. Child accounting and existing instructional procedures supply the others. Both budget procedure and accounting are merely mechanical facilitating agencies to the larger and real purpose—the instructional process.

Mechanical Facilitating Agencies

This concept is vital to functional organization. Past efforts by some of our colleagues in the field of administration to follow traditional field practice and continue the separation of the facilitating agencies into the two large groups of "business" and "education" have had the effect of making purpose and means coordinate in popular and practical thought. Such a concept is fraught with danger to a completely functional organization of the educational process. Unless it is conceived and retained wholly as a facilitating agency in terms of the philosophy of purpose earlier expressed, finance tends to become the dominant factor and results almost always in the subordination of the basic purpose. This is the disturbing situation in so many school districts to-day where the "business manager" actually holds the real balance of power.

Budget and accounting procedures of and by themselves are merely mechanical agencies. Unless the breath of life is poured into them as translated plans and purposes and unless they are administered by individuals who are motivated by an essentially sound social philosophy, they remain as mere mechanical possibilities. The presence of good accounting and accurate statistical budgets is not necessarily a sign that everything is perfect. Operated mechanically they may be a great handicap to public education.

Two Types of Budgets

Budgets fall into two classifications. The first, or the annual, is the most commonly known type. It represents the allowed finance for a period determined by law and generally not in excess of a calendar year. The second is represented by long time planning and may also be considered technically as a budget. The essential difference between them is that one represents an actual legally expendible fiscal allowance over a short period of time (fiscal year) while the second is a plan for possible expenditures over a long time period, possibly a decade, and assumes an extension of foreseen conditions. Actual finance should only be granted for the short time period represented by the annual budget. Long time budgeting, or planning, is essential to indicate the possible road to be traveled and the expense of transportation for the period. It also permits a much more intelligent development of the program by foreseeing and preparing for essential extension in an orderly and balanced fashion.

Practically all of our budgeting has been done in terms of the short span of the fiscal year. Even such commendable foresight is by no means common. Further, it is difficult to determine just what is the actual extent of intelligent budgeting through the ever popular armchair questionnaire method of research. Everyone admits having a budget but sampling field investigation indicates that many are overoptimistic. My own field experience has convinced me that the first big finance problem before most of our local school districts is the development of adequate mechanics in terms of both accounting and formal analytical budgets and then the building of a functional technique whereby the accounting and budget systems may be used as instruments and guides but not as masters.

While the immediate problem of the annual budget is being developed, it is essential that we do not neglect the second phase of long time budgeting or planning. The basis for long time planning lies both in the field of philosophy and in the field of objective research. The adoption or

adaptation of new concepts and practices, the enlargement of social objectives and services, the possibilities of physical growth, the needs of the physical plant and of types and quality of personnel must all be based upon careful research and study.

This long range study of needs must be considered both from the local and the state viewpoint. In all probability the state will continue to set, in the future as it has in the past, the mandatory minimum educational program. Following our traditional practice local districts will be required to meet the minimum social needs and will be permitted to enlarge upon them in accordance with their ascertainable needs. The question to be considered is whether we shall determine these educational needs in the future as in the past. The point might well be made that our past plan of *laissez faire* in expanding local districts in terms of trading area desires or other local whims and the needless duplication of and competition between higher state institutions have been neither completely intelligent nor completely economical.

Before we have answered this another question intrudes. Can we develop long time planning in public education without regard for the other social activities that are essential for popular welfare and advancement? Is it not essential that some means of coordinating all of these essential activities be developed? Must not the articulation of other governmental activities be considered as a parallel problem with the greater articulation and development of our programs of public education? If these questions are answered in the affirmative, who will do the job? Will it be entrusted to the legislature, to the state departments of education, to specialists in the several fields, to outstanding popular leaders or to a combination of all of these agents?

Problems That Must Be Solved

I do not presume to answer any of these questions now. Yet all of these problems have an important bearing upon the pregnant question of long time budgeting or planning. They must be solved if we are to avoid the mistakes of building by the accidental process of accretion instead of by designing the entire edifice and then considering our possible resources in terms of progressive application.

The relation of budgeting to public school finance, therefore, must be considered as means or mechanics in providing an objective statistical technique through which the facilitating agency of finance may most efficiently serve the fundamental needs of the educational process. Budgeting and accounting are merely agencies through which the policies and procedures at any given time are translated into possible achievements. Finance must be carefully integrated within our organization so that it remains the servant rather than the master. The short time fiscal budget is relatively simple to develop and to use. The long time budget, or the wide educational plan, is more difficult and intricate.

The method by which the wider budgeting will finally be accomplished both in the state and locally has not been determined. There are many choices. Scientific budgeting can only be developed insofar as it is built upon the social objectives and aims that are accepted and supported by the group. Finally, no accounting or budgeting system is of value save as a translation of policies and procedures, depending for success in its administration upon the intelligence, skill, integrity and social-mindedness of the personnel.[1]

Why Vermont Prefers One-Room Schools to Consolidations

The tendency in the Vermont educational system is to retain the one-room rural schools rather than to consolidate them, according to Carl J. Batchelder, deputy commissioner of education for that state.

"It has been found best to retain the one-room rural schools, because of the difficulty of transportation to central schools for long distances over hill roads, especially in the winter time when there are bad snowdrifts," Mr. Batchelder says.

"This tendency is not without exception, for in Vershire three schools have been consolidated into one this year and a similar consolidation occurred in Panton a few years ago.

"Some of the towns have no small rural schools. There is a four-room central school in Lowell and a three-room school in Fairlee, but practically all of the rural schools are kept in preference to consolidation. When M. B. Hillegas, now of the Teachers College, Columbia University, first came to Vermont he started the consolidation plan but gave it up during the last of his régime, and began reestablishing the little white schoolhouse.

"The Vermont rural schools are not of the 'water bucket and stove in the middle class,' for under the state's standardization plan the rural schools have been materially improved. Two years' normal school training is required for teachers in these rural schools excepting where the teacher has been giving instruction for a long period."

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[1]Read at the meeting of the Department of Superintendence, N. E. A., Detroit.

Are Public Address Systems Broadening Education?*

Judgments of administrators are here shown to be in agreement that public address systems make large contributions to the program of their schools

By GRAYSON N. KEFAUVER, Associate Professor of Education, and H. C. HAND, Assistant in Secondary Education, Teachers College, Columbia University

THE discussion thus far has dealt with the material aspects of the public address system. The more important questions are concerned with the educational contributions of these systems. What uses are made of them and how well do they work? Manifestly, one should be critical of the claims made by firms or dealers interested in promoting the sale of this type of equipment. The placing of any large amount of reliance upon the necessarily limited experience of any one administrator may also be unwise. It is believed that a more reliable evaluation of the uses made of public address systems could be expected to result from a summarizing of the subjective judgments of a large number of school administrators who have had experience with such equipment.

The principal or superintendent of each of the forty schools was asked to indicate how important

*The first part of this article appeared in the August issue of The NATION'S SCHOOLS.

The library of a Milwaukee public school where a loud speaker is installed.

a contribution the public address system had made in the general administration of his school.

Of the thirty administrators who supplied information on this question all but eight indicated that the public address system had made large contributions to the general administration of their schools. Of these eight, only one felt that the equipment had made no significant contribution. This principal represented a school in which only approximately one-third of the classrooms had been supplied with loudspeakers. With such a meager portion of the school included in the system, a contribution of any significance could hardly be expected. In addition to the limitation of partial equipment, the lack of satisfactory radio programs was also felt by this administrator to reduce the effectiveness of his system of sound distribution.

In order to obtain a single numerical rating of the value of public address systems, a weighting of 0, 1, 2 and 3 was assigned to each of the four ranks, from "no significant contribution" to "a very large contribution," respectively. Certain comparisons are more easily made when the means of the ratings indicated by each type or size of school are at hand. The ratings of effectiveness of public address equipment were found to be higher in the schools of large enrollments. The ratings were also higher in elementary schools than in high schools.

The general favorable reaction of administrators can be noted in the following comments penciled one or more times on the margins of the inquiry forms: "A unifying, time saving, efficiency promoting instrument of administration." "A great help to school administration." "A great administrative convenience." "We would find ourselves much handicapped without it." "Contributes greatly to the general management of the school." "On the opening day of school the entire program is directed through the microphone." "Helps organization and eliminates clerical work." "Opportunities for contacts between the principal and pupils are multiplied many times." "It saves time." "It eliminates the irregular interruption of classes." "It ensures the reception of announcements and notices by all teachers and all pupils."

No significant differences were found among the various types of schools in the kinds of uses made of the public address system. The five most popular uses employed, respectively, by 37, 34, 31, 30 and 27 of the schools were "radio programs transmitted to a given room or rooms," " general announcements by the principal," "music appreciation," "speeches and talks transmitted by means of the microphone to a given room or rooms," and "supplying music and other entertainment features for school parties and dances."

A complete enumeration of the uses reported by two or more schools would require that the following be added to those already listed (the figures in parentheses indicate the number of schools

TABLE VIII—USES MADE OF PUBLIC ADDRESS SYSTEMS

	Frequency of Use				
Nature of Use	*Daily*	*1 - 4 times per week*	*Less than once per week*	*Used formerly but dropped*	*Total*
General announcements by principal	19	11	3	1	34
General announcements by faculty	3	4	11		18
General announcements by pupils	2	8	13	1	24
Music appreciation	1	20	10		31
To accommodate overflow meeting		1	9	1	11
For voice amplification in auditorium		7	8		15
Supplying music for parties and dances		7	18	2	27
Radio programs transmitted to given rooms	8	19	9	1	37
Phonograph recordings transmitted to given rooms	3	12	7	3	25
Speeches and talks transmitted by microphone to rooms		13	16	1	30
Routine announcements to home rooms	7	8	1	1	17
Talks on school spirit	1	7	10	2	20
Talks on school enterprises	2	10	11	2	25
Talks on school discipline, etc		12	12	1	25
Talks on study habits, library procedure, etc		3	12	1	16
Talks on first aid, safety, etc		4	11	1	16
Talks on appreciation of art, literature, etc		3	8		11
Talks of patriotic or special day nature		4	11		15
Classroom instruction in music		12	4		16

A school superintendent making an announcement that concerns fourteen of the twenty rooms in the two school buildings of a village. Note the various positions of the switches on the master switchboard.

reporting the use designated): "directing the fire-drills (9)"; "talks on vocations (7)"; "talks on Educational Guidance (7)"; "directing setting-up exercises (5)"; "talks on appropriate conduct and dress (5)"; "away from home athletic contests, debates and other activities transmitted by wire and released through the public address system (5)"; classroom instruction in English (6), science (6), commercial subjects (5), health education (3), foreign languages (3), practical arts (2) and mathematics (2).

Other uses for which public address systems have been successfully employed are the following, in the words of those reporting them: "stories and games for children," "current events," "art masterpieces described and discussed while pupils study miniatures," "dramatization of poetry and literature," "excellence in preparation and diction encouraged by permitting grade pupils to read to other rooms through the microphone when they reach a certain level of accomplishment," "fundamentals in arithmetic taught" and "drills and objective tests conducted over the microphone."

The comments that were returned relative to uses are indicative of the widely conflicting views held by the principals as to the possibilities of the public address equipment for instructional purposes. At the one extremity were those who felt that the "use for instructional purposes is mostly theory" and that "most radio programs are rendered unfit for schoolroom use by advertising matter."

A considerably larger number of comments reflected more optimism: "The public address system through carefully selected and organized programs, is an important factor in the improvement of classroom technique and instruction. It brings the expert in various fields to the classroom." "We get the School of the Air almost daily and think it's great." "We have had wonderful success with the reception of educational programs such as those conducted by various colleges, by WLW, by WMAQ, and by the American School of the Air." "My opinion is that the radio feature is the strong part of it (the public address system.) Not only has the Ohio School of the Air been greatly worth while, but there has been much along the line of music, home economics, agriculture, public addresses, legislative and

court proceedings, and often proceedings from Washington, D. C., that have outranked anything done locally from a mere announcement point of view." "It has proved beyond a doubt a worth while device in supplementing teaching."

The administrators were also requested to rate the satisfactoriness of each use made of the public address equipment on a four-point scale extending from "very satisfactory" on the one extremity to "very unsatisfactory" on the other. In a few instances the principals reported uses without indicating their satisfactoriness.

The total number of ratings, covering all uses for which ratings were indicated and inclusive of those listed in Table VIII, submitted by the administrators was 450. Of this number only ten were on the "unsatisfactory" side of the scale. Of the 440 "satisfactory" ratings, considerably more than two-thirds, or 321, were at that extremity of the scale labeled "very satisfactory."

Further Studies Should Be Made

Some inclination to doubt the reliability of this high rating will probably be evidenced by those who are skeptical of the value of sound equipment. It may be argued that the novelty of this equipment operates to produce an uncritical acceptance of it, and further, that the principals included in the canvass were not capable of judging without bias equipment for the installation of which they themselves were in many cases largely responsible. These objections are probably to some extent valid. However, until controlled experimentation is employed in the evaluation of public address equipment, there appears to be no more satisfactory way of arriving at an estimate of its worth than by the subjective procedure followed in this investigation.

The average degree of satisfaction was computed for each use by assigning the values 0.0, 1.0, 2.0, and 3.0, to each of the ratings from "very unsatisfactory" to "very satisfactory," respectively, and dividing the sum of the rank values assigned to each use by the number of times it was rated. The index number 0.0 would represent a rating of "very unsatisfactory" while 3.0 would indicate an average rating of "very satisfactory." Values lying between 0.0 and 3.0 would indicate various ratings between these two extremes. All ratings fell between 2.1 and 2.9. In other words, all average ratings were above that point on the scale labeled "fairly satisfactory." The average for the total number of ratings submitted by the principals (450) was found to be 2.7. This corresponds to a point on the scale closely approximating that designated as "very satisfactory."

It is logical to assume that the larger the number of satisfactory uses made of the public address system, the greater the return on this type of equipment. It has already been pointed out in this discussion that all but ten of the 450 uses reported were rated as "fairly satisfactory" or "very satisfactory." Consequently, some knowledge of the typical numbers of uses for which the public address equipment was utilized by schools of various types and enrollments is desirable.

Although the differences are small, more uses were found for the sound equipment in the schools of larger enrollments and more extended utilizations of the systems were reported by the schools enrolling pupils below the level of the high school.

The schools that found the public address system of least value in its contributions are identical with those that have utilized the equipment for the least number of uses. While these differences are not large, they may perhaps be regarded as further evidence in support of the statement that the size of the contribution made by sound equipment varies directly with the number of uses for which it is employed.

The judgments of administrators are in agreement that public address systems make large contributions to the program of their schools. The almost total absence of unsatisfactory reaction is somewhat surprising, considering the recency of the development of the equipment and the lack of a program for its use. As the equipment is improved and as principals of schools discover a greater variety of uses, it is probable that the public address system will come to be accepted as an important feature of most modern and well equipped schools.

Play and Its Relation to Intelligence

Lehman and Witty, of the University of Kansas, in a "Study of Play in Relation to Intelligence," have found that "dull" children display more interest in play requiring motor activity than do "bright" children, and that they are more interested in games which involve "social participation." They conclude: "These facts should be of conspicuous value to the educator, for a sane and successful educational program must recognize the interests and abilities of the child. Such recognition must be tempered of course by sound adult judgment of what the child actually needs. In this way only can the school be made to yield its maximum returns."

Is the Educational Utopia in Sight?

The ideal of equality of opportunity for every child is the goal toward which the states are striving and which they are approaching with steady progress

By W. W. Carpenter, Professor of Education, University of Missouri

ONE of the earliest pictures the historian paints for us of the human race as it emerges from barbarism is a group of semisavages banded together for the purpose of self-protection. Engaged in a shared and ceaseless combat with their environment, they hailed with joy any new discovery and instructed each new member in its use. The development of implements of self-defense as well as those of agriculture, of hunting, of trade, and the discovery of ways of living together and of participating in these shared interests were the early contributions of the race.

It is not difficult to discover why these early people were interested in passing on to succeeding generations this rapidly accumulating social inheritance. Faced as they were with extermination by starvation, the fear of calamity and the dread of catastrophe and pestilence, they early learned that their children came into the world poorly equipped to meet their complex environmental and social problems. In tribal ceremonies and at the family fireside and altar, those ways of doing things that had been found to be desirable were taught to the young. From the weird initiatory tribal services and the simple home training of the semisavage youth has grown the school of modern times with its ideal of universal education.

The Growth of Democracy

It is a long, long way from this simple early society to our modern complex civilization. Society gradually changed. It slowly evolved. Leaders arose in times of emergency to aid the people in their fight for existence and for their privileges. Certain leaders, gaining power, usurped the rights of the many. These leaders called themselves kings; they compelled obedience and service. Interested in their own health and happiness, they encouraged a certain type of investigation. Through a little discovery here, another there, a mass of information accumulated. But these truths, these arts and skills and these educational opportunities were only for the privileged class. Even so, the world was slowly becoming civilized. With civilization came the idea of democracy. With the development of democracy, came the idea that there are certain rights and privileges to which all people are entitled. Constitutions were drawn up that recognized these rights of the individual. Along with the development of democracy came democracy in education.

Making the Dream Come True

The dreamers of the centuries have written of the Utopias and the land of equal opportunity.[1] Plato, Sir Thomas Moore, Bellamy and H. G. Wells have placed education as fundamentally necessary in their Utopian dreams. Each may represent in a way the desire and longing of people for an opportunity for themselves, their children and future generations. Each represents the thinking of groups of people; each deals with an ideal that in his generation had not been attained.

In one of his speeches in the United States, Ramsey McDonald, the British prime minister, said:[2]

"The fact of the matter is, if you take any great human cause that has triumphed for the benefit of the world, you will find that originally it comes down from the clear, blue sky of idealism, down, down, down through experiment after experiment that has failed, until at last it touches the earth, and as soon as it touches the earth, by almost a magical transformation of its creative power, it begins to grow up and up by physical means and by successive additions until at last it establishes itself as one of the great achievements of the intelligent human will."

Mr. McDonald was not discussing education when he made the remarks quoted above, but they do seem to apply to the educational idealism of the Utopians.

The ideal revealed by a study of the forty-eight state constitutions in this country is just as lofty and just as worth while as the dream of the Utopians; and, what is more desirable, it is an ideal that is attainable and for which constitutional

sanction has already been obtained. The ideal expressed in our constitutions is the ideal of equality of opportunity. Each state through its constitution accepts education as an inherent right for every child. Each state directs its legislature to establish a system of education that shall be free and equal to all of the children of the state. Here is an ideal that we, as an entire nation, have accepted. In accepting this ideal, we are carrying on the most important experiment in democracy the world has ever seen, an exceptional experiment, the results of which may determine educational procedure for centuries to come.

What the States Are Doing

When we consider the total legislation and trend in the United States in the direction of guaranteeing educational opportunity to every child, we realize that advancement toward our ideal is being made. Five of our states have raised the upper limits of compulsory attendance to eighteen years; the lower limits have gone down to six and seven, making possible twelve years of schooling for every child.[3] Shall the example first set by Ohio be our ideal, or shall the upper limit continue to increase and the lower limit to decrease? I shall not attempt to answer this question here. It is sufficient to say that a great deal of attention is being paid to our preschool work, which is a year before the kindergarten, and much emphasis is being given junior college education which is two years above the present senior high school. Will these be accepted as a part of our public school system? Certainly the rapid development in these fields indicates interest.

There are, however, even in the light of our excellent laws, many children now who do not attend any school. There are literally hundreds of thousands of little children who are deprived of their inherent rights because of conditions for which they are in no way responsible. It is, therefore, important to consider why children do not attend school. Certain of the causes of nonschool attendance are as follows: (1) The child enters industry by means of a work permit; (2) the child lives in a home that is antagonistic toward the school; (3) the child lives in a poverty-stricken home; (4) the child lives in a home far removed from any school; (5) the child is kept home on account of illness; (6) our schools, as organized, were not planned for the unfortunate child.

The child who enters industry has been the subject of many and varied child labor laws. The state desires to protect such children from the selfishness of their parents and guardians. Many so-called child labor laws are passed which support the compulsory attendance laws. As with the compulsory attendance laws, there is great variation among the states, but the trend is distinctly to protect the child. Considering all the states, there are 300 different occupations that are forbidden to children.[4] The age at which children may enter certain occupations has been consistently raised until in one state there are certain trades that girls cannot enter until the age of twenty-one. Both of these facts point toward our ideal. There are, however, thousands and thousands of children today in industry, but the various states have not yet reached the point where they will prohibit entirely their entrance. The states have partly made up to these children their loss by the establishment of continuation schools.

The continuation school will be with us until such time as society demands that nothing shall interfere with our ideal of equality of educational opportunity for every child. The continuation school insofar as it keeps the child out of regular school is an adjustment; but it is an interesting adjustment in that it does attempt to make up to the child what he loses as a penalty for having had misfortune in his family. If our ideal were fully realized, there would be no need for the continuation school which replaces regular school. There will always be a place for a certain kind of continuation school, but not the type mentioned.

The child who comes from an antagonistic home is indeed unfortunate. He is a victim of ignorance. For the antagonistic parent the several states deal severely in the enforcement of their laws. The compulsion side of our law is found to have teeth. But here a grave mistake is made. While in the last resort a fine or imprisonment may be desirable, yet usually the application of either the fine or the imprisonment creates an attitude that can never be overcome. Why cannot we look at our compulsory attendance law in a different light? The child is being deprived of a privilege so precious that neither he nor his parents realize its value; certain conditions exist in the home which make his attendance impossible. It should be our business to discover these conditions and remove them; the rest will be easy. The state cannot afford to allow the ignorance or prejudice of any parent to deprive one of its future citizens of his heritage. The child must be reached, but first the controlling condition must be discovered and removed.

Providing for the Handicapped Child

The child who comes from a poverty-stricken home is laboring under a severe handicap. Undernourished children without money for clothing and books cannot come to school. But they should not be deprived of their schooling. They should

not be deprived of their share of the social inheritance. In many states, books, pencils, paper and even clothes and food may be purchased for them, either directly by the school authorities or through other existing agencies.

Formerly the child who lived far distant from a school grew up ignorant. But why should a child suffer because his parents choose or are compelled to live in some remote region? Mere distance from a school should not rob any child of the store of knowledge that should be his. To-day the child who lives at too great a distance is transported to school. In some instances, when circumstances demand it and transportation cannot be provided, he is taught by correspondence.

Where Health Is Paramount

Illness of the child is one of the important reasons for nonattendance at school.[5] It is expected that parents will require the sick child to remain at home. The problem here is one of prevention. To the extent that children can be kept well, to that extent this cause of nonattendance will be eliminated. The modern school recognizes the importance of the health of the child. Medical, dental and nurse services are now found in our better schools. The study of health has become a part of the elementary and secondary school curriculum. Those in authority have learned that the protection of the health of the children of the community must be a continuing process. Illness of school children can never be entirely eliminated, but by cooperation with health authorities it can be controlled to the extent that it will become one of the minor rather than major causes of nonattendance.

The unfortunate child cannot attend the regular classes of our schools as originally organized, for there was no provision made for the deaf, the dumb, the crippled, the blind and the mentally retarded. These unfortunate children need help even more than their more fortunate brothers and sisters. It is unjust to discriminate against those who are least able to take care of themselves.

The education of the crippled child has gradually shifted from a private to a state responsibility until now twenty-one states make some provision for their education.[6] The first laws to be passed arranged for this work to be done in state schools, but opinion to-day seems to favor special classes in the home community. In several states the local district is required to provide special classes for crippled children. In ten states the local district is authorized to establish such classes. Several states require home instruction, and two authorize home instruction for these unfortunates. Several require that transportation be provided for the physically handicapped; others authorize the local unit to provide it.[7] The tendency is clearly toward giving to the crippled child those rights to which he, too, as a member of society, is entitled.

Just as it has been pointed out that provision is being made to allow our crippled children, either by transportation or by home instruction, to receive an education, it could also be shown that the semisighted, the deafened, the stupid and even the delinquent child has been provided for in our most forward looking states. They, too, are entitled to educational opportunities just as normal children. Because of their afflictions, they should not be punished by withholding sacred privileges.

One by one the conditions that are depriving children of the privilege of attending school are being overcome or removed by our states, first, by recognizing that these conditions exist and, second, by not using this condition as an excuse, but by passing laws that will allow the condition to be removed or overcome.

Let us continue to hold our national ideal in mind, the ideal of equality of educational opportunity. Let us exert every effort to carry out these provisions already made which will remove the conditions that deprive children of the right to attend school; let us continue to make provisions, legislative and otherwise, until we eliminate every condition that would keep in ignorance a child who can profit by instruction.

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"Bookmobile" Is Welcome in Maine's Rural Communities

A "bookmobile" for the purpose of providing a wider distribution of reading matter from the state library to rural communities in Maine made a summer tour of the state, distributing books.

The equipment consisted of a motor truck with specially built body to shelve 600 books in such a way that they could be readily consulted on tables formed by the lowering of the doors on the sides and rear of the body. It was in charge of two young women from the state library and visited every county at least once during the summer.

The "bookmobile" was presented to the state by the Business and Professional Women's Clubs and its operating costs are met by the Maine Parent-Teacher Association.

Editorials

Do Secondary School Teachers Need a Leave of Absence?

IT IS universally recognized now by higher institutions of learning that members of instructional staffs need to get completely away from their regular work for a year or so after six or seven years of continuous teaching. Some sort of an arrangement has been adopted by practically every higher institution so that an instructor may have a leave of absence every seventh year without cessation of his salary. It is generally believed by college and university authorities that a teacher will become stale and unprofitable if he does not abandon his job periodically and gain enlightenment and inspiration out in the world.

It has often been remarked by superintendents and principals of public schools that teachers in high schools need leaves of absence for study and refreshment more than do instructors in higher institutions, but until very recently the policy of granting such leaves has not been put into effect anywhere. The situation is changing rapidly, though, as Albert O. Jenkins has shown in an unpublished investigation that he has just completed at Syracuse University.

Mr. Jenkins undertook to find out how extensively the plan of a sabbatical year for secondary teachers was being followed throughout the country. He has found that of all the cities in the United States of over 100,000 population, 29 per cent of them now grant leaves to their secondary teachers who have been continuously in service for a period of from seven to ten years. A much smaller percentage of cities of a population under 100,000 observe such a policy. The superintendents of cities in which the principle of a sabbatical leave of absence is observed maintain without exception that a year of study or travel increases markedly the usefulness of a teacher, and that this is ample justification for continuing the teacher's salary in whole or in part during his absence. Few cities grant a teacher full salary during his sabbatical year; usually he receives half of his regular salary, or the difference between his salary and what is required to provide a substitute while he is away. When a board of education continues the salary of a teacher on leave, the teacher is required to return to the school system after his sabbatical year and remain for at least three years. He signs an agreement to this effect before he is granted a leave of absence with a continuance of salary.

Mr. Jenkins found in his investigation that teachers who have taken advantage of leaves of absence and have used their time in a serious way have, according to the testimony of superintendents, justified the policy of the boards of education of granting teachers at least half pay while they were away. The only disadvantage of the arrangement that any superintendent mentioned was the difficulty of holding teachers in a school system for at least three years after their sabbatical year. When a teacher signs an agreement, however, to remain for a given period in the school system of the community that has made a sabbatical year possible for him, the agreement will rarely be broken.

On the whole, Mr. Jenkins' investigation has shown that leave of absence could be generally adopted for secondary school teachers to the benefit of the communities they serve. A sabbatical year can be regarded as a year of service to the community in which the teacher labors. In the cities investigated by Mr. Jenkins, a teacher was not penalized in any way who took advantage of a sabbatical leave; his annual salary increment was allowed the same as though he had been in active service, and his retirement status was not affected in any way. In return for the advantages gained by the teacher, he is expected, upon his return to the school system, to make a report of what he has gained during the year that may be of help not only to himself but to all the members of the teaching staff.

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"Giving Battle to High Interest Money Lenders"

SINCE the appearance of the article in the January, 1931, issue of The NATION'S SCHOOLS entitled "Giving Battle to High Interest Money Lenders" hundreds of inquiries have come in asking how credit unions to combat the high interest personal loan companies may be formed. To our knowledge, many school systems under the leadership of the superintendents have already formed credit unions, and others are contemplating the move. For all of these it is hoped that the article on page 59 of this issue will be of benefit.

The past year has been a particularly "fat" one for the personal loan banks that always thrive on others' misfortunes. The Chicago situation with the teachers paid in "scrip" has aided the loan

banks greatly and semi-annual reports show their earnings to be far in excess of any previous six months.

It is a little surprising that superintendents and school men collectively did not investigate these companies long ago. One of the vaunted claims is that the teacher can borrow unbeknown to the superintendent or members of the board of education. The suave gentlemen who run these companies explain that teachers don't like having their bosses know they are borrowing. The truth of the matter is that no superintendent in his right senses would allow a teacher to borrow from these agencies because their interest is exorbitant, and in addition the teacher often signs a chattel mortgage, a confession of judgment and a wage assignment, any one of which would be sufficient security for a $300 loan.

The loan bank at any time the teacher fails in one payment can attach furniture and chattels, can get a judgment in court without the knowledge of the teacher, and can then compel the school board to pay to these modern Shylocks all monies due the teacher until the loan, exorbitant interest and cost of securing the judgment are satisfied. This is the same unprincipled law that cheap installment houses resort to, and the reason why many employers have a clause in employees' contracts that the contract is automatically canceled if the employee has his wages attached. Other employers will fight for the employee and if possible beat the loan and installment sharks by paying the employee in advance. Money not yet earned cannot be attached.

In a typical application for a loan the teacher must tell if she has a bank account and in what bank, and if she has life insurance and in what company. This is very useful information to the loan people in case a payment is missed. Also the application asks for the names and addresses of three personal friends.

Many of these small loan people stress the fact that no co-signers are required—that the disgrace of borrowing $300 is a deep secret between these nice old gentlemen and the teachers, and they need never fear that their sins will be found out—unless they fail to come through with a portion of the principal and the exorbitant interest charge and then, ah, then, perhaps those three friends, shall we say they would like to know of your poverty? etc., etc. We do not accuse these companies, who are always careful to stress their great desire to be of service, of such a low and loathsome thing as implied blackmail, but our simple minds can see no other reason for the names of three personal friends inasmuch as they are not being asked to endorse the loan.

A Change Is Needed in Diagnosing Vocational Aptitudes

HERE is the way a certain vocational counselor in a moderately sized city advises pupils regarding the course they ought to pursue after graduation from high school. A boy in the senior class comes into the counselor's office by appointment. The counselor has before him a record of the boy's work in the elementary school and in the high school as far as he has gone, and also the results of an intelligence test. He asks the boy questions relating to the work he has most enjoyed in school, what studies he would like to continue and what he would like to abandon.

The counselor asks other questions pertaining to the boy's expectations in regard to going to college or entering upon a vocation. He attempts to ascertain whether the boy's parents have talked to him about his career after he completes the high school. He finds out what the counselee's father is doing and what success he is achieving. A few questions relate to the counselee's health, the games he likes best, the readiness with which he makes friends, his companions and the books he reads.

The counselee's answers are for the most part not very precise. He is hesitant in regard to many of them. His hesitancy and the expression of his features indicate that he is not quite sure himself what vocation he would choose or what interests him most in school or outside, what kinds of books or companions he chooses above all others, and so on. But the counselor evidently bases his advice to the counselee upon the lead he gains from the boy's responses.

A list of vocations, including professions, is placed in the boy's hands. He is asked to go over the list and see what ones he thinks he is best fitted for and what he would like to undertake. The counselor gives him hints respecting the vocations or professions for which he is not well adapted and other vocations or professions in which he might succeed.

The counselee leaves the office of the counselor helped a little, perhaps, to decide intelligently what course he ought to pursue after graduation. But he is still groping in the dark. Neither the boy nor the counselor knows what abilities the boy possesses either in a superior or in an inferior degree. Neither one can tell whether or not success would probably be achieved in one vocation as compared with another.

On the basis of the intelligence test and the school record, the counselor could definitely advise the boy whether or not he should go on to a liberal arts college or to a technical college or to a voca-

tional institute, or whether he had better undertake a vocation at once, starting in as an apprentice. But if he should enter immediately upon a vocation, what one should he undertake? Here is where light is needed. Our resources for educational research should be concentrated pretty largely for a few years upon the attempt to devise professional, vocational and trade tests that will objectively measure a pupil's interests, temperament and abilities.

It is practically useless, and may even be worse in certain cases, to ask high school pupils what they can do best, what their real interests are, what sort of social life they prefer. Such questions are capable of subjective answers only and most high school pupils are incapable of seeing themselves, of analyzing their interests and aptitudes, of diagnosing their temperament, without prejudice or bias. Subjective estimates of one's powers and disposition are more likely to lead the counselor astray than to put him in possession of dependable data regarding his counselee. Self-analysis score cards are of doubtful value for purposes of diagnosing a counselee's aptitudes, temperament, dominant interests, aversions and predilections.

Unless a counselor can secure objective facts concerning his advisee, it is improbable that he can offer dependable guidance. But if he will apply himself unremittingly to the task of developing diagnostic tests that will yield objective data regarding each counselee, then it may be possible to solve a perplexing educational problem.

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Should Our Schools Foster Prejudice Against Foreign Peoples?

DURING the past three or four years, American educators have been on the alert to detect propaganda of one kind or another in the textbooks used in the schools, in special exercises or in information provided *sub rosa* by agencies outside of the regular teaching staff. The revelations that have been made the last few months by investigators who have been tracing the origin of propaganda material sent to the schools for use in classes or in auditorium periods have been startling.

At the present moment, a great deal of heat is being generated over the exposure of subtle propagandist activities in the schools for the benefit of commercial agencies. There has been some discussion also of biased and prejudiced statements in textbooks, particularly in history, geography, reading, civics, sociology, political economy and foreign languages. In New York and Chicago some textbooks have been banned from the schools because they have been pronounced as lacking in bias or prejudice in favor of our own people and to the discredit of foreign peoples. The whole matter of bias, prejudice, bigotry and propaganda in the schools is deeply agitating a large proportion of superintendents, principals and teachers, and also many laymen.

Are textbooks biased and prejudiced? We have at last a large volume of accurate data relating to this matter. Dr. Bessie L. Pierce, University of Chicago, has analyzed about four hundred textbooks in history, civics, sociology, political economy, geography, reading, music and foreign languages. She has quoted liberally from the textbooks she has examined and has given exact citations for each quotation. This is by far the most comprehensive and thoroughgoing investigation that has ever been made of the universal tendency of American textbooks to favor the native country in any controversy with any foreign nation. Doctor Pierce has shown also that traits have been purposefully and wrongly ascribed to the peoples of other nations that have made them unattractive to us. Further than this, children have been led to believe that the people of other countries must be watched and guarded against because they are underhanded, aggressive, greedy, ignorant and even in some instances malicious.

Practically all the books examined by Doctor Pierce are shown to be pro-American. Not one of them, so far as could be detected from an examination of Doctor Pierce's elaborate survey, shows any disloyalty to American institutions, characteristics and activities, whereas practically all of them regard with disfavor most of the institutions, characteristics and activities of foreign peoples insofar as any attention is given to them. The people of England are shown up in an unenviable light in our textbooks. Authors apparently consider that the English harbor hostile and aggressive motives in respect to our country. France is treated in a more friendly way than is England. Those who come to our shores from China and Japan are described unfavorably. The peoples of South America are represented as adventurous and more or less untrustworthy.

Doctor Pierce's investigation ought to prove of service to our educators in helping them to choose textbooks that will not foment discord between our nation and other nations. It should be possible to secure textbooks for elementary and secondary schools and for colleges that will not emphasize the weaker and more undesirable qualities of foreign peoples, at the same time minimizing our weaknesses and playing up our virtues out of their proper proportion.

Happy to Say—By WILLIAM McANDREW

THERE may not be much glory in school service, but Buddy, there's a lot of glow!

WE CAN'T help feeling that failure is a disgrace. But the reality of degradation is to let it go at that.

EVERY business house, church, musical society or organization of any sort I ever knew had one or more members disposed to exploit dissatisfaction. They were not concerned with solving problems or improving service. One soon learns that these peevish people thrive on notice. When a superintendent lies, cheerily, saying every teacher in his corps is of the cream of the earth, he is using a cure approved since the time of Solomon.

WE ADMIRE a man who keeps himself straight. A teacher, a principal, a superintendent is in the regular business of helping a score, a hundred or a thousand or more to do this for themselves and others. Reading, writing or arithmetic won't help the world much into becoming a congeries of good men. But a good teacher will.

EVERY teacher knows that 7 and 6 don't stay 13. In a boy's mind they are 15 to-day and 17 to-morrow. When we all wake up to the fact that it takes years of unvaried rightness to fix a habit in mathematics or morals, then the number who keep on right after they get their diplomas will be enough to make America what the founders expected it to be.

THE preamble of the Declaration stressed the *rights* of man. It was not until a Constitution began with a list of *duties* that we had a nation at all.

IF SCHOOLS had devoted themselves to making clear the ways by which this nation avoided disaster at home in time of the great war, who can deny that popular impotence in our present disastrous peace would be enormously mitigated?

MAYBE the world is not half sick but half grown. We may need education as a medicine but we surely need it as a food.

IF YOU can't enlist for peace promotion the clever men of the world who work up wars by propaganda, publicity and superefficient planning, you can adopt their general scheme, purge it of its dishonesty and by it set in the right direction the minds of the youngsters whose thinking you guide.

HISTORY, say the makers of textbooks, is taught to enable us to learn from the mistakes of the past what to avoid in the future. Only the "America Firsters" bluff that our past had no mistakes.

WE OUGHT to require children to make their own numeration of the civic advances made in the United States and then to require of them lists of our greatest civic needs. The first is to prevent despair; the second, to cure indifference.

CHARLIE PROSSER has written a book about us schoolmen being inside a wooden horse. When I read Tom Briggs, Dave Snedden, Will Kirkpatrick and Goody Watson, on what our high schools do and fail to do, I fear the danger is because of our wooden heads.

HENRY FORD says school managers should steel themselves against coddling the teachers. Real workers resent jollying. It's a drug. Telling "what" and "how much" vitalizes a school system.

SUPERVISION is not a device to prevent the expansion of ability but a provision to reduce waste and loss. It isn't keeping good teachers from doing their best. It has pulled poor ones out of their worst. In thousands of tests on record the children taught by supervised teachers excel pupils of the Stepdaughters of the Revolution who demand the right to go their own way.

AN ANONYMOUS person claiming to be a member of a high school faculty writes a long article in the *World's Work* claiming that teachers are cranky. Page Timotheus. Who's he? The man that smites the lyre.

OFTEN I think it would be pleasant to own the best kind of a car, a saddle horse, a box at the opera and to be able to go to Europe any time I chose. But when I look at these precious youngsters and know that even in my imperfect way I am leading some and pushing others on the road to make this a better world, I am ready to walk, instead of ride, at home, instead of abroad, and hold my head up.

Schoolhouse Planning:

How to Determine the Location of New Centers

By ARTHUR B. MOEHLMAN, Professor of School Administration and Supervision, School of Education, University of Michigan

THE third step in the process of developing the ultimate school plant is to find the best location of new centers.

The basic spacing policy in terms of which this activity takes place has already been determined. Spacing was determined by the selection of a certain type of organization, the community tradition and the size of the administrative unit desired. For purposes of illustration we may assume that the 7-3-3 organization was selected with a progressive spacing of a half mile radius for elementary schools, one mile for junior high schools, and one and a half miles or more for senior high schools.

Such selection means that elementary centers will generally be one mile apart, junior high school centers two miles and senior high schools, three miles or more apart. These distances are approximate and will be slightly longer or shorter according to the physical conditions encountered in the community.

The size of the site has also been determined by policy. These policies are assumed to require at least five acres for elementary schools, a minimum of ten acres for junior high schools and a minimum of fifteen acres for senior high schools.

The first study, that of the retained sites in terms of their possible future use, has already been made and was described in an earlier article.[1] The next step is the actual locating of new centers.

Choosing a Site

Since orderly and intelligent planning requires the location not only of sites to be utilized immediately but also of those that will probably be required over the span of time represented by the survey, it is first essential to establish the ultimate limits. Ordinarily this is a relatively simple matter. The existing district boundaries are assumed to be the limits considered by the survey. Sometimes these may coincide with the boundaries of the municipality and again they may be radically different. The surveyor must constantly bear in mind the fact that existing boundaries are merely a current and arbitrary legal expression and that except under peculiar conditions of terrain they may be easily extended by resolution or by the casting of ballots. The boundaries of few existing districts may be considered as final.

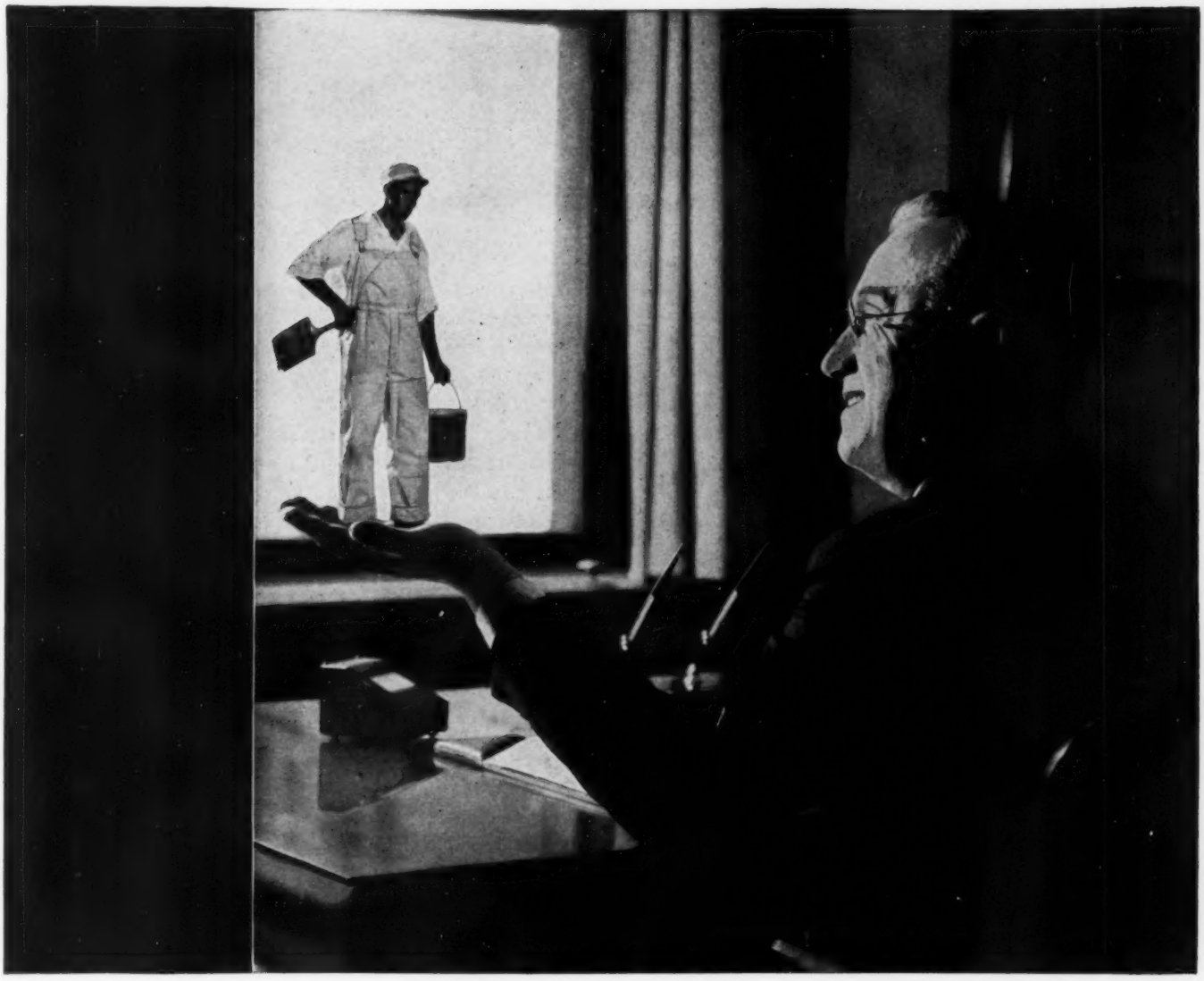
Future Growth Must Be Studied

In all cases, even though it does not immediately appear feasible to extend district control directly, careful study should be made of the possibilities of expansion and of the problems created by smaller outlying communities or school districts. If the area is one that shows tendencies toward future growth, the larger problem of school housing should be considered as a unity. This may be accomplished by direct independent study, but it is always more effective if the school districts in such areas pool their interests. Even if immediate amalgamation is not considered feasible the extension of the physical program of site development, to prevent possible overlapping or the wrong location of future buildings as new growth fills in the gaps between the principal and the outlying districts, is highly desirable. In any area that shows signs of becoming a closely populated industrial center, such a procedure will ultimately result in the saving of much expense to the people of the entire area.

The happy results achieved through cooperative effort are illustrated in the case of Detroit, Grosse Pointe and Hamtramck, Mich. The last community is an industrial island completely surrounded by Detroit. Eventually this territory will be combined with Detroit. When the ultimate school plant was developed in 1926, great care was taken to make it fit the surrounding Detroit development. Whenever annexation takes place it will be possible for the Detroit district to take over the Hamtramck schools without discarding or relocating a single center.

Grosse Pointe is a high grade residence area that joins Detroit on the east. It is doubtful whether it will relinquish its local independence in the near

[1] Moehlman, Arthur B., Disposing of the Present Plant, The NATION'S SCHOOLS, August, 1931, p. 86.



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future. Its organization and plant development have proceeded upon the assumption that all possible overlapping should be eliminated. Sites were therefore chosen in their relationship to the development of the Detroit area to the west and to the north. While the Grosse Pointe requirements are completely satisfied, there is no duplication that would require expensive discarding or rebuilding if the unexpected happened and this area were combined or federated with Detroit.

It Is a Good Idea to Make Two Plans

In some instances it is well to prepare two site plans, one for the existing district and a second for the existing district plus the surrounding territory. The second plan will enable rural or neighboring village or town districts to govern their needs by the general plan. While generally overlooked in the development of the typical plant program, the need for looking into the future beyond the immediate legal limits of a district is vital and is basically essential to intelligent planning.

Before new centers are actually located certain maps are essential. Those relating to the development of industry, commerce and transportation have already been prepared. The mapping of existing social, recreational and ethical facilities was also accomplished during the sociologic survey. The new maps required at this juncture are those relating to the probable civic and noncivic projects planned for the future and, if the terrain makes planning difficult, a contour map and an air picture of the entire area are desirable. The first suggested map of future public and private development will prevent mistakes in placement. As an illustration, it will make it possible to keep schoolhouses away from precinct police and fire stations. The contour map will furnish definite information regarding relative height and the relation of one area to another. The air map will present a bird's-eye view of the city in perspective and will indicate significant factors that are seldom recognizable from the ground.

With these data arranged on the wall, where all elements may be quickly studied, it is easily possible for the specialist to create a composite image of the future community which will condition the development of future districts.

The next step is to prepare the ultimate plan for elementary centers, never forgetting completely their relationship to the secondary units. The sites map is easily used if it is pasted or tacked to a large piece of wallboard. The existing centers may be transferred from an earlier map and the process of district building started. While the circle, square, staggered square or diamond may be employed I prefer to lay out districts as they will actually serve under field conditions. None of these mechanical methods result in a thoroughly practical district map since they take no account of peculiarities in subdividing or terrain. The nearest theoretical unit to the practical is the square. The procedure I prefer in this portion of the study is to prepare a series of paper or cardboard squares, each cut to the scale of the map employed and representing one square mile. For immediate checking purposes other squares, preferably of different colors, representing four square miles and nine square miles, for junior and senior high school districts, may be prepared.

The elementary squares are laid upon the map in close relation, except that those areas indicated upon the industrial and physical maps as being nonproductive for school purposes may be left blank. When this process of fitting has been accomplished, the junior high school areas may be superimposed upon them. The centers of these areas may then be marked by a pin. The senior high school district areas may be superimposed upon the junior high school cutouts and their centers marked by a pin of a different color. The purpose of threefold consideration at this juncture is to provide general guides when the elementary areas are more closely developed.

The senior and junior high school areas (districts) may be removed, leaving the cardboard elementary areas alone on the map. Pins of a different color may now be placed at the corners of these districts and the cardboard cutouts removed. The areas between the pins are theoretical or mechanical assumptions. It is next necessary to study them carefully with reference to traffic arteries, other hazards and nondrawing areas. My practice at this point is to move the pins so as to adapt the district area to the actual physical conditions. The result in many instances is not a perfect square but the enclosure of a well related and well integrated area.

How Far Should Pupils Walk to School?

It is impossible in practice to develop a district in which every child walks an equal distance. It is even questionable whether such a condition would be desirable. The policy distance presumed (a half mile for an elementary child) is only a rough and arbitrary assumption. If the area consists of one square mile, certain children will walk, if subdividing permits, at least three-quarters of a mile.

After these areas have been tentatively plotted in relation to actual physical conditions, they may be enclosed by means of colored string. The map now shows a network of theoretical districts developed according to the best information secured from all the maps and studies developed earlier in

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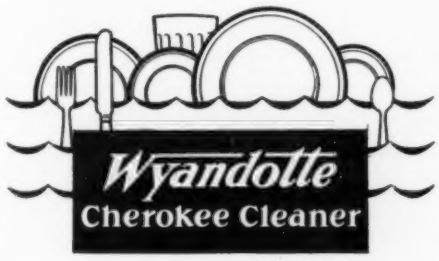

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the survey. The next step is to determine the possible site locations. At this stage it is desirable to select the one site that is theoretically the best and locate it also on a small 4 by 6-inch card.

The surveyor should then go back to the field and study each district separately. Aided by the small scale map, he may first inspect the proposed district boundaries noting any peculiarities that earlier studies may have omitted or that were not considered worthy of note. After the proposed district boundaries are rated in accordance with the results of this field survey, the ideal site may next be considered. Again, certain factors may be disclosed which neither map nor survey revealed. Relative land values of this and other possible sites may be considered for later investigation. The terrain should be carefully studied.

Theoretically only a single site in any given district is ideal. However, in practice this theory may be modified considerably without any serious disadvantages. Other things being equal, if a site slightly off center is considerably cheaper than the one indicated in theory, it may be good sense to select the second. Sites within one or two blocks of a theoretical center may in practice be readily and efficiently serviceable. The theoretical site, because of subdividing, may be too small or too narrow. Since it is in the exact center of a district, it will probably be located upon the so-called half mile or half section road. Future development may make this inner road a heavy traffic thoroughfare producing much noise. One block in either direction will tend to minimize the noise factor. Hazards may be otherwise controlled.

Modifying Theory to Meet Conditions

Finally, theory must in many instances be intelligently modified to meet actual conditions. There is little justification for a hard and fast standard that cannot bend flexibly in practice. The purpose of this field survey is to secure evidence either for or against the theoretical assumption in site development, and the final determination should be based upon the weight of all evidence that may be gathered. The same routine may be followed in every district. When the field survey has been completed, it is possible to correct proposed district lines that require change and to relocate the tentative sites in terms of final decisions.

The next series of activities, following the same routine, are those related to the selection of junior high school sites. While these have been casually considered in terms of tentative location determined by the first superimposition of district cutouts, they must be now studied with the same degree of care that was suggested in the development of elementary districts. In the case of the larger junior high school districts more latitude with respect to site location is possible. Two blocks off center in any direction is not a serious deviation from good practice, if other considerations as determined by a field survey make such a shift desirable or necessary. The junior high school district map is made in the same manner as the elementary district map.

The same process is repeated in detail for the senior high schools. Owing to the increasing size of the district and the greater maturity of the pupils even greater practical leeway in site location is possible.

Final Conference Should Be Private

After all three maps have been completed, it is desirable to have these tentative recommendations carefully reviewed by a competent committee of local school men. This should include a principal from each major division such as elementary and junior and senior high schools, in addition to the executive staff and the superintendent. This review must be conducted in strict confidence for reasons noted later. Every person participating should realize the necessity for absolute secrecy.

These conferences may bring forth suggestions that have been overlooked or neglected in the previous study. Even a specialist in the field, armed with all the facts of the field survey, is not so competent that his generalized decisions may not be improved through direct contact with persons who through long residence and experience in one situation are familiar with every local detail. After these conferences have been completed it is possible to draw up for the final report these district maps from the working maps.

A final word of caution is necessary in this phase of the work. Confidential information regarding future civic and noncivic building activity must be strictly safeguarded to prevent speculators from acquiring options on real estate and raising the price when acquisition is contemplated. Until the land is actually acquired by the board of education, the location of future school sites must be safeguarded. Realty operators are quick to take advantage of projected improvements to raise subdivision prices. Independent operators acquire options and hold them at advanced figures. Others may purchase property in the vicinity and take advantage of the increment due to the projected school plant. In the interests of the school district, no one connected in any way with the survey should be permitted to use this confidential information for private profit. Neither should any participating agent divulge the decisions reached until the board of education has protected itself in every way against possible extortion.

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THEY'RE back — eager, bright-eyed — bringing with them the same old problem — what to do about *noise.*

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Acousti-Celotex, applied to ceilings, subdues distracting classroom noises, absorbs the racket in corridors, cafeterias, manual training rooms, swimming pools and gymnasiums — quiets reverberation in assembly halls.

Acousti-Celotex comes in attractive tiles which are easily installed in old or new buildings. No remodeling is necessary—the tiles are applied directly to joists or over plaster. No interruption to school routine—the work is done quickly and cleanly. The tiles may be left in their natural buff color, or stencilled in desired patterns. Painting does not impair the sound-deadening efficiency of this remarkable material.

Acousti-Celotex is applied by Acousti-Celotex contracting engineers, trained in acoustical problems. The school architect or school board may secure their services for a survey without cost or obligation. For an appointment, write to The Celotex Company.

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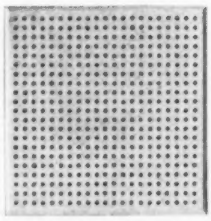
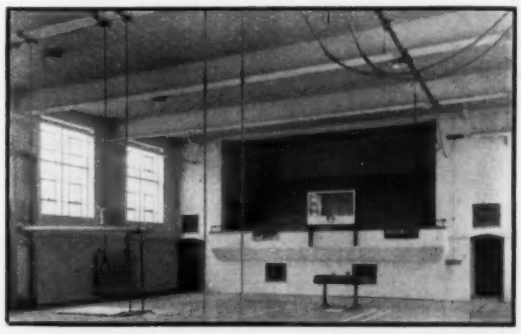


Acousti-Celotex ceilings can be decorated like ordinary plastered surfaces. Use any kind of paint — the deep perforations you see here guard against the danger of impairing sound-absorbing efficiency.



Buffalo Seminary, Buffalo, N. Y. uses Acousti-Celotex to control sound in the hard-surfaced gymnasium. Architects, Bley and Lyman, Buffalo.

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Practical School Administration:

The Public Schools as Important Factors in World Economics

By PHILIP C. LOVEJOY, Formerly Assistant Superintendent of Schools, Hamtramck, Mich.

RECENTLY in London I picked up a copy of the *Contemporary Review* for July. An article by Harold Cox on the topic, "Our Financial Position and Prospects," caught my eye, because after several weeks of travel in Europe I was anxious to get the British point of view concerning the world crisis in general and the crisis in England in particular. The last several paragraphs in the article are of particular interest to educators because they set forth an idea or two on saving money in education, a topic that has been under discussion in this department for a number of months.

Says Mr. Cox: "Another important question is the cost of education. The charge both upon local rates and national taxes has risen enormously in the past twenty years. In 1910-11 the charge upon rates for education in Great Britain was just over fourteen million pounds. By 1928-29 it was forty-one million pounds. Does anyone seriously believe that the country is getting an adequate return for this enormous expenditure? One of the troubles with the educational services as with other government controlled services is that the persons employed constitute a corporate force persistently pressing the government for further increase of expenditure. We are suffering in England to-day, as Rome suffered, from a constantly expanding bureaucracy and the steady though silent pressure of the bureaucracy is one of the most formidable obstacles to public economy.

Should the Masses Pay?

"We shall not escape from our present difficulties until we abandon altogether the policy of giving the masses of the population something for nothing and asking the taxpayer to provide the money. There is no reason, for example, why the working class parents should not contribute to the cost of education of their children as they continued to do for twenty years after education became compulsory. To take a smaller matter—it is both fair and financially desirable that people who use the public libraries and museums should all make a small payment for the benefits they receive.

"These are examples of the way in which money could be saved and taxation reduced. Every proposed economy is sure to provoke opposition but we shall all of us have to make sacrifices if our country is to be saved from grave disaster."

Before comment is made on these statements it may be well to refer to an editorial in the August issue of the *Woman's Home Companion:*

"It was in the reading room of the Detroit Public Library, in a British periodical, that a young mechanic named Henry Ford found the idea from which he developed his motor car. That idea made a great industry for Detroit, to say nothing of its effect on the whole social structure.... The library is a vital part of an educational center. . . a library is far more than a storehouse for books. It is, as has been said, a community power house sending out ideas that energize the lives of people."

What Free Libraries May Do

Here then we have a statement of what public libraries do. If they are made free for the masses, some poor but enterprising young man may receive an inspiration and an idea that will revolutionize the entire social and economic structure of the world and create wealth enough to endow a hundred libraries where others may seek inspiration and ideas.

There can be no doubt that Mr. Cox is correct in his thesis that ever expanding bureaucracies make increased demands on the public exchequer. To say that public school teachers and administrators constitute the chief menace is rather harsh, yet each administrator must heed the warning. Have all the innovations in schools come as a result of public demand, or as a result of the instigation of educational leaders? Have not administrators led the public to believe in certain needs? Are these selfsame educators certain that the demands have always been justified? Must not they be careful not to become part of a bureaucracy making undue demands on the taxpayer?

"THE VEGETABLE PLATTER, PLEASE"

Children should eat green vegetables; but what child likes limp lettuce or wrinkled-up tomatoes? Lettuce should be really iceberg-like; tomatoes really solid, smooth and fresh. The Vollrath Vitalizer belongs in school refrigerators to keep vegetables crisp. Their moisture can't dry out in this. It is a snow-white, brilliant, hard enameled dish with a ventilating enameled cover. Lettuce, celery, and other garden-goods are simply sprinkled with cool, fresh water and laid inside.

And when children order their lunches, let all the foods be served from enamel utensils — visibly, whitely clean. The sparkle of Vollrath Ware under carrots, creamed chicken, string beans — makes these look doubly tempting.

Here are platters of every size, vegetable pans — steam-table panels — double boilers — soup ladles and tureens — all snow-white, seamless, sanitary. All made of three coats of enamel fused onto steel, each coat at 1800° F. No wonder this enamelware lasts! And when you buy for schools you want a world of service. You can secure Vollrath Enamelware from your restaurant-equipment house. Or if you prefer, we will send you catalog and prices. The Vollrath Co., Sheboygan, Wisconsin. Established 1874.

Most refrigerators for schools are already equipped with the Vollrath Vitalizer. If yours isn't, how is celery kept stiff? Vitalizer, 5 sizes, Also butter-dishes and other refrigerator-dishes — all lustrous white.

Milk Kettle — just about indispensable in any sizable school Nothing takes on odors so quickly as milk. Odors can't cling to the hard-china surface of Vollrath Ware. Kettle, 5 sizes.

No vegetables stain this Vegetable Inset. No abrasive or scouring needed to clean it, either, and it is too hard to be dented. Spinach, fragrant with lemon juice, dipped up from these rounded white depths invites even the most ardent spinach-hater to have some!

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In America no one doubts the wisdom of supplying the masses with free public schools, free public libraries, free playgrounds and of providing for them adequate opportunities for the wise expenditure of leisure time. The English author sees grave disaster ahead by continued demands on the taxpayer. He is arguing to prevent such disaster, and finds it necessary to advocate every possible type of economy. This department has for several months been setting forth certain ideas on economy in education, but it has constantly advocated that no steps of false economy be practiced. If libraries should be limited in use to those who pay, it is entirely possible that those who need them most would not enter, and the world itself might be the sufferer as generations pass by.

The Challenge to the Public School

In order to be perfectly fair, may it be recorded that the *Contemporary Review* has set forth phrases of sharp significance? European countries, including England, know a great deal more about taxation than does America. A friend of mine in England stated that 25 per cent of his income went to the government by way of taxation. America has not experienced such taxation. I went to a theater in London and paid an 18 per cent tax on my ticket. America rebelled at the former 10 per cent war tax on amusements. Without doubt there will be in America increasing demands on the government for additional facilities for the masses, and taxes will be increased. Old age pensions are becoming quite the thing. Unemployment pensions will soon be the fashion unless a solution to the present economic crisis is discovered. Better living conditions for the workers at a minimum cost, such as are provided in Austria, will make their début in this country if rent evictions continue. The taxpayer will be responsible for the bill, the taxpayer being the man who is more fortunate than his brother in that he has taxable property. Certain continental governments have been successful in obtaining sufficient money to accomplish these items in social legislation.

Where does all this fit into the subject of economy in the public schools? In the first place, if the teachers of America do constitute a bureaucracy, they must have in mind the ultimate welfare of the masses, both the rich and the poor. Economies of the moment should be effected to relieve undue taxation in a time of crisis, but long range economies should also be considered. Under no condition should the economies be shortsighted so that ultimately more expense is incurred.

With the world in a dilemma the public school is increasingly challenged. What can it do to solve the problems now facing the entire world? Have the schools not spent too much time on the three R's and not enough on problems of definite social significance? I attended a great public conference on disarmament in Albert Hall, London, early in July. Ramsey MacDonald, Stanley Baldwin and Lloyd George, bitterly apart in many other causes, were together on the same platform that afternoon, united in a single great cause—disarmament. Said all three: "The world talks much about disarmament, but does very little else; practically every country is more greatly armed to-day than it was before 1914." Figures presented indicated that the governments of the world now spend more on armaments than they did before the World War. The world armament expenditure is now about $4,500,000,000 annually, of which the United States' share is approximately 20 per cent. According to Per Jacobsson,[1] America will spend $707,425,000 in 1930-31 as against $283,085,000 that it spent in 1913.

If the schools of America are to be leaders in social and economic advance, they will do something to see that a reduction in such an expense is effected at the earliest possible moment. The governments of the world are being attacked by intangible bureaucracies of fear and illusion that are extremely costly. Next November in Paris a public conference on disarmament will be held under the auspices of Viscount Cecil. This conference will be the forerunner of the great official disarmament conference to be held in Geneva, Switzerland, in February, 1932. Possibly the adult generation is more peace minded than it has ever been, even if armaments have been increased. The world wants peace. But what does the younger generation know about peace or war? While it is admitted that the three R's are necessary, yet with our increased efficiency is it not possible to teach mastery of them in a much shorter time than is now the case? Cannot the time saved be devoted to subjects such as disarmament?

The Real Fortifications of Democracy

Can we expect the schools of the world to aid materially in the solution of the economic problems with which we are now faced? Surely the schools in conjunction with the churches must have some recipe for the advancement of social and economic welfare. M. R. Keyworth writes in the *Hamtramck Public School Bulletin:* "The vital products of the schools are the habits, skills, attitudes and ideals that have been integrated into patterns of control in pupils and that will help them to solve the problems of living in a democ-

[1] Armament Expenditure of the World

For more than fifty years the Clow Soldier of Sanitation has been fighting the grim ghosts that like to lurk in toilet rooms, around drinking fountains and in every plumbing fixture of public and semi-public buildings.

During these years the ghosts have found many reasons to hate the Clow Soldier of Sanitation.

This is Soldier M. O. *"Mop"* PATREY, *Stationed at Madison, Wisconsin.*

He developed the Clow-Madden Automatic Closet which flushes itself automatically, leaving no chance for disease germs to breed and spread.

He developed the junior height closet to promote health and cleanliness in grade school toilet rooms.

He designed, recently, a new mischief-proof, angle-stream, drinking fountain on which no lips can touch the water source.

He has worked out complicated fixtures for hospital use.

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As a result of these and countless other developments the Clow Soldier of Sanitation has behind him the most complete line of plumbing fixtures in the world, designed particularly for school, hospital, factory and similar types of installation.

But more than that the Clow Soldier of Sanitation has fifty years of accrued knowledge of how to do the job with the least possible cost now and through the years to come. The Clow Soldier of Sanitation is your ally. Call him in.

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Consult your Architect

racy. These constitute the real fortifications of a democracy."

There may be purchased either in England or in America an English translation of the Russian primer used in the national schools of the Soviet Union to explain the five-year plan. In the schools of one European country the children pray daily for divine help in restoring their lost provinces. The attitudes of the coming generation are developed by the public schools in the youth of the present day. If we are serious in this business of economy, we shall see to it that waste in methods of teaching is early eliminated, that lessons of little social significance are thrown in the rubbish heap and that there is substituted therefor some thought along the great economic and social problems now facing the world. If the schools of the world cannot develop solutions for these problems, then all the money being spent in them will be to no avail, for the world will not have been made a better place in which to live.

It is time for constructive thought to be given to the larger phases of education. Dilemmas like those in which we now find ourselves would not exist if education in the past had been really functioning. Assistance towards a solution of these world problems will go a long way toward proving the fact that educators constitute a profession of genuine value in the life of any country, that their bureaucracy is at least one type that cannot be done away with and that teachers and administrators do possess a technical skill developed only though long years of acquisition and hence worthy of all the money spent to retain them in the profession. It is time for administrators in America to stop tinkering with minor matters in the curriculum, to stop worrying about the 6-6 or the 6-3-3 plan, or some other administrative device for organization, and to turn attention to the serious affairs confronting the world.

The public schools of the world should constitute the foremost line of defense against social and economic ills.

A Southern Superintendent Looks at the Junior High School

Editor, The NATION'S SCHOOLS:

I was greatly interested in your editorial comment made in the June issue of The NATION'S SCHOOLS on the subject, "Is the Junior High School Making Good?" A brief chapter from our own educational experience in Sumter, S. C., may be of interest.

When we were brought face to face with a consideration of this problem, we could not bring ourselves to become enthusiastic about the proposed change. So great was the question in our minds that we preferred to adopt the policy of watchful waiting and we became convinced that it was wisest to continue a policy of this sort.

It is perfectly natural for those responsible for a school system to desire to keep it in step with the latest developments. The more we looked into this question, however, the more we believed that the objections to it could not be successfully overcome by its desirability.

Our objections were:

1. That the expense would be too great.
2. That the buildings needed for a junior high school development would be too pretentious when compared with the other buildings of the school system.
3. That since it would be at best only an experiment, it would be preferable for others to make the experiment who could more easily afford to do so.
4. That it would cause a needless and undesirable break in the continuity of organization, and a resulting misfit in the junior high school's relationship to the rest of the system.
5. That, instead of holding girls and boys in the schools, the tendency would be to make them drop out because they would feel that they had already had high school experience, and that they had practically finished all that the schools had to offer.
6. That, instead of looking forward to entrance into the high school, the junior high school pupils in leaving buildings more modern and more complete than the older senior high school buildings, would resent going into surroundings less attractive than those to which they had been accustomed.
7. That the arrangement of the curriculum was likely to be scrappy and lacking in a continuity of plan and purpose.
8. That it seemed unwise to establish a number of exploratory courses on the assumption that girls and boys of junior high school age would be able, through courses of this sort, to make wise selections of their courses of study in the high school and in colleges.
9. That there would result a moral and intellectual flabbiness, by a policy of tasting, "by attending a feast of languages and stealing all the scraps."

We believe that our plan is a better one: To place the seventh grade in the high school buildings, and thus let the pupils become gradually accustomed to the departmental method of teaching as it is followed in the high school, and the necessity of having different teachers.—*S. H. Edmonds, Superintendent of Schools, Sumter, S. C.*

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Cleanliness

AND RESPECT FOR PROPERTY

TEACHERS know how thousands of youngsters need to be taught these two things early in life. Whale-bone-ite Toilet Seats are unmistakable object lessons in the very place where uncleanliness and abuse of property are most likely to show themselves.

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Whale-bone-ite always looks new, clean and inviting. It keeps its beautiful appearance forever. Once installed, Whale-bone-ite never has to be replaced. It is guaranteed for the life of the building, ending replacement expense once for all.

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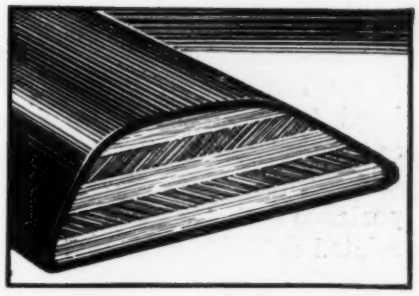
In order to have proper toilet seats in present buildings or new schools, get the complete story of Whale-bone-ite Seats as told in this new book. No cost or obligation. Send coupon today. Address, The Brunswick-Balke-Collender Co. Dept. G-17, 623-633 So. Wabash Avenue, Chicago, Ill.



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Jet-black, glass-smooth and diamond-hard, Whale-bone-ite beauty never wears off seat or hinge. No exposed metal to harbor dirt and germs. Easy to keep clean and sanitary with minimum effort. Non-inflammable. With all these advantages Whale-bone-ite costs no more than the cheapest moulded composition seat made.

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IT TAKES A WHALE OF A SEAT TO STAND PUBLIC TOILET ABUSE

*Your Everyday Problems:**

Viewing School Costs in Terms of School Service

By JOHN GUY FOWLKES, Professor of Education, University of Wisconsin

MORE attention has been given to school costs by both the educator and the layman during the past decade than during any other ten-year period. City councils, superintendents of schools, survey commissions and special investigators have produced many studies in this field. As a matter of fact, however, most of the studies described as studies of school costs are in reality reports of disbursements, sometimes related to such factors as school census, school enrollment or average daily attendance.

As school costs rise, it is of increasing importance that cost figures become available, figures related not only to attendance facts but to such factors as the length of school term, the qualifications of the teaching staff, the school curriculum and the purchasing power of the dollar. The following discussion is a report of trends of school costs in the elementary schools of Glendale, Ariz., from 1904-15 through 1930-31[1].

The cost per pupil per year was obtained on the basis of the average daily attendance and the current operating expenditures of the system for each year. The weighted cost per pupil per year was derived as follows: The cost per pupil per year was adjusted to variations in the length of the annual school term so that the cost would more nearly represent the same quantity of edu-

*Discussions in this department deal with problems that frequently confront principals and superintendents. Inquiries on problems of this nature should be addressed to Doctor Fowlkes.

[1]The information in this discussion concerning the Glendale schools was supplied by Harold W. Smith, supervising principal.

TABLE I—COST AND WEIGHTED COST PER PUPIL PER YEAR, 1904-31

Year	*Cost Per Pupil*		*Time Adjustment*		*Index Cost of Living*			*Weighted Cost Per Pupil*
1904-05	$22.34	x	9/7	÷	86.	x 100	=	$33.40
1905-06	21.05		9/7		85.			31.84
1906-07	32.78		9/7		88.			47.95
1907-08	32.86		9/7		94.			44.95
1908-09	19.97		9/7		91.			28.21
1909-10	24.68		9/7		97.			32.69
1910-11	30.23		9/8		99.			34.35
1911-12	29.70		9/8		95.			35.17
1912-13	42.37		9/8		101.			47.19
1913-14	49.33		9/8		100.			55.49
1914-15	35.35		...		103.			34.32
1915-16	42.50		...		105.1			40.43
1916-17	38.40		...		118.3			32.46
1917-18	49.14		...		142.4			34.51
1918-19	60.13		...		174.4			34.48
1919-20	60.06		...		199.3			30.15
1920-21	101.25		...		200.4			50.52
1921-22	92.09		...		174.3			52.84
1922-23	68.38		...		169.5			40.31
1923-24	71.08		...		173.2			41.04
1924-25	67.20		...		172.5			39.00
1925-26	73.15		...		177.9			41.12
1926-27	75.58		...		175.6			43.04
1927-28	72.15		...		172.			41.95
1928-29	76.03		...		171.3			44.38
1929-30	74.67		...		171.4			43.56
1930-31	73.00		...		139.7			52.25

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KEEPING out the disturbing noises of busy hallways, where activity must go on, from the precious silence of the classroom where studies must not be interrupted.

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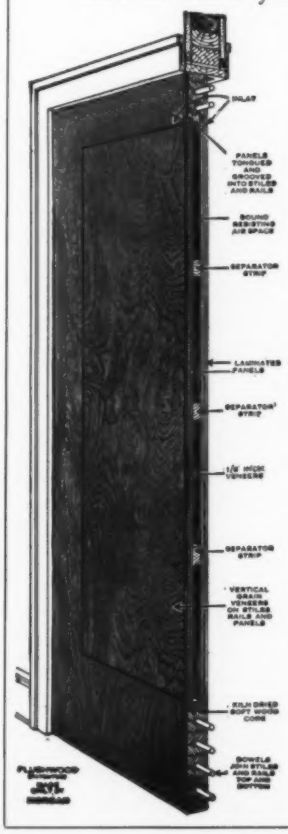

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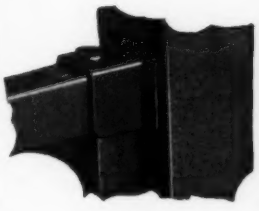

Strength and rigidity are essential qualities in Toilet Partitions. Lacking these qualities, the partition (which is always subject to abuse) will rock and sag, necessitating constant maintenance.

To eliminate any possibility of loosening, Mills specially designed U clip tightly grips panel and holds it to post with two heavy claw-like prongs, making a permanently rigid connection at each corner. The screw passes not only through the clip and panel rail, but into the corner of the panel sheet itself; a feature of rigid construction found only in Mills Partitions.

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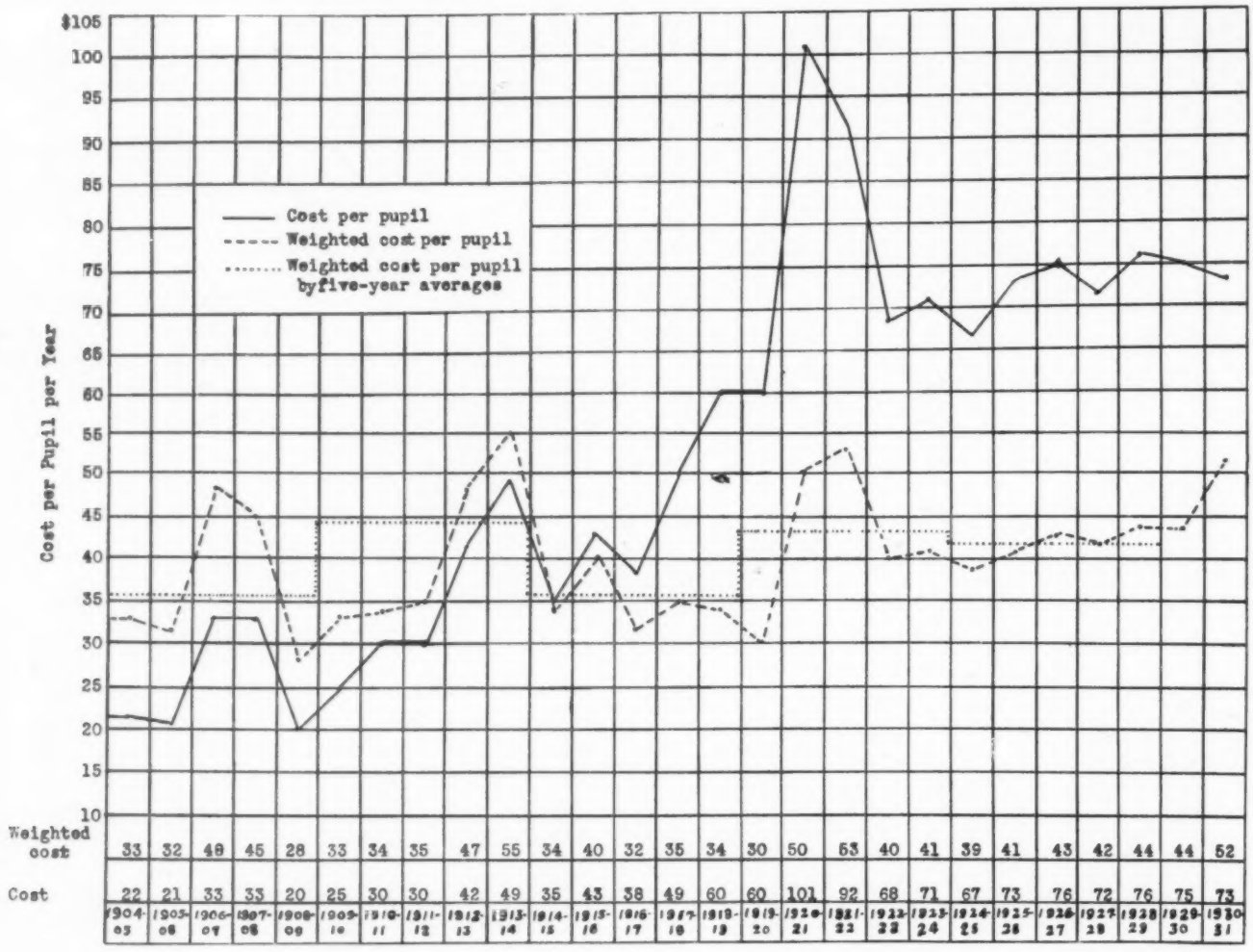
cational service in each year; after the cost per pupil per year was adjusted on the basis of the length of the school term, the appropriate index of the purchasing power of the dollar was applied to the cost per pupil in each year. An analysis was made of certain factors relating to cost, such as teacher training, staff-pupil ratio, study courses.

The cost per pupil per year was derived by dividing the average daily attendance for the year into the total current operating expenditures for the year. Expenditures for capital outlay are not represented in the data presented. The per pupil costs for the twenty-seven-year period under consideration are presented in Table I and in Graph 1. A study of the graph indicates a general tendency for the cost to increase from year to year. While many years show a decrease in cost when compared to the previous year, the general trend is definitely upward. From a low point of $19.97 per pupil in the year 1908-09, the cost line proceeds generally upward to the high point of $101.25 in the year 1920-21. From that high point, the cost declines rather abruptly to $68.38 in the year 1922-23. It is interesting to note in this connection that the low point in 1908 followed the financial depression of 1907, and that costs declined rapidly after the depression of 1920.

In considering the two years, 1920-21 and 1921-22, it is interesting to note that they follow the "boom" period succeeding the World War. Also, reference to Table III will indicate that the staff-pupil ratio of those years was comparatively high, being 1:22 for both years. These two facts alone are sufficient to explain, if not to justify the exceptionally high costs of those special years.

As previously stated, in determining the weighted cost per pupil, two factors, the length of the school term and the index of the cost of living, were given consideration. During the first six years of the period 1904-05 through 1930-31, the length of the school term was seven months. During the four years immediately following, the length of the term was eight months, and for the remaining years school was in session nine months. In a study of comparative costs, it appears logical to give due weight to this variation



Graph 1, showing cost and weighted cost per pupil per year and weighted cost by five-year averages (expressed to the nearest dollar).

AUDITORIUM OF SOUTH DIVISION HIGH SCHOOL, MILWAUKEE
Notice the Two Model D, Wright-DeCoster Speakers on the Sides of the Stage

Wright-DeCoster Reproducers *Triumphant* in Milwaukee Schools

South Division High School, Milwaukee, Equipped with 65 Wright-DeCoster Reproducers

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Frederick R. Hanson

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MILWAUKEE
WISCONSIN

Wright-DeCoster, Inc.,
St. Paul, Minnesota.

August 13, 1931

Gentlemen:

Early this year we made a complete sound installation in South Division High School at Milwaukee. This is one of the larger city high schools in Milwaukee, and there are about 2,000 students attending this school. We have installed 65 of your speakers in the class rooms and auditoriums. There are microphone outlets on the stage of the main auditorium and at the principal's desk. A radio tuning unit and twin turn tables are also used in conjunction with this apparatus. It is possible for the principal to address the entire school at any time because speakers are installed in all rooms where students might be.

The Principal, Mr. H. E. Coblentz, is very pleased with our installation of the Wright-DeCoster speakers in his school. An evidence of his pleasure may be had from the following example. The committee from one of the other larger schools visited South Division High School in order to inspect the sound equipment before ordering equipment for their own school. When the requisition was made for their school, the order came through as follows: A Wisconsin Electronics Sound System with Wright-DeCoster speakers similar to the one installed in South Division High School. Mr. Coblentz also believes that there is no finer equipment than that which he has.

I have written you this letter knowing that you would be interested in the successful use of your high flux speakers in class rooms, and your dynamic speakers in auditoriums.

Yours very truly,
WISCONSIN ELECTRONICS CO.
Frederick R. Hanson

in the length of the annual school term for two reasons: (1) The total annual current expenditure per pupil was increased by the lengthening of the school term, and (2) it is assumed that the value of the educational service rendered was in direct proportion to the length of the term.

In order to make proper adjustment for the varying length of the school year, the costs per pupil for the first ten years were reduced to a nine months' basis. The cost per pupil for each of the first six years, during which there were only seven months in the school term, was multiplied by 9/7, and the cost per pupil during the next four years, when there were eight months of school each year, was multiplied by 9/8.

The technique of applying the cost of living or the purchasing power of the dollar, in arriving at true costs as a basis of comparison, is too well known to need discussion or justification. For the first nine years of the period included in the study, the Continuous Commodity Index from the Bureau of Agricultural Economics, United States Department of Agriculture, was used as a base for determining the purchasing power of the dollar. For the following years the Index of the Cost of Living in the United States by Major Items, computed by the United States Bureau of Labor Statistics, was used. Figures of the Bureau of Labor Statistics were not available for the years prior to 1913. Both sets of figures take the 1913 base as 100.

A study of Graph 1 indicates clearly the effect of weighting the cost per pupil by the techniques already outlined. Up to the year 1914-15, the weighted cost per pupil is higher than the cost, and from that year on the weighted cost is lower. It is apparent that the cost and the weighted cost would be the same for 1913-14, except for the adjustment on the basis of the length of the school term, the index of the purchasing power of the dollar being 100 for that year.

TABLE II—AVERAGE WEIGHTED COST PER PUPIL—5-YEAR PERIODS

Years	*Average Weighted Cost Per Pupil*
1904-05 to 1908-09	$36.19
1909-10 1913-14	44.14
1914-15 1918-19	35.04
1919-20 1923-24	43.07
1924-25 1928-29	41.93

The weighted cost per pupil was averaged by

TABLE III—STAFF-PUPIL RATIO

Year	*Number on Staff*	*A.D.A.*	*Staff-Pupil Ratio*	*Ratio by 5-Year Periods*
1904-05	1	64	1:64	
1905-06	2	66	1:33	
1906-07	3	67	1:22	1:29
1907-08	3	59	1:20	
1908-09	3	92	1:33	
1909-10	4	116	1:29	
1910-11	5	148	1:30	
1911-12	6	164	1:27	1:26.5
1912-13	10	241	1:24	
1913-14	12	310	1:26	
1914-15	15	373	1:25	
1915-16	18	374	1:21	
1916-17	16	403	1:25	1:23
1917-18	20	418	1:21	
1918-19	22	531	1:24	
1919-20	25	763	1:30.5	
1920-21	40	889	1:22	
1921-22	34	738	1:22	1:25.6
1922-23	29	799	1:28	
1923-24	30	863	1:29	
1924-25	32	915	1:29	
1925-26	33	877	1:27	
1926-27	32	848	1:26.5	1:27.5
1927-28	32	913	1:28.5	
1928-29	35	963	1:27.5	
1929-30	34	973	1:29	
1930-31	34	983	1:29	

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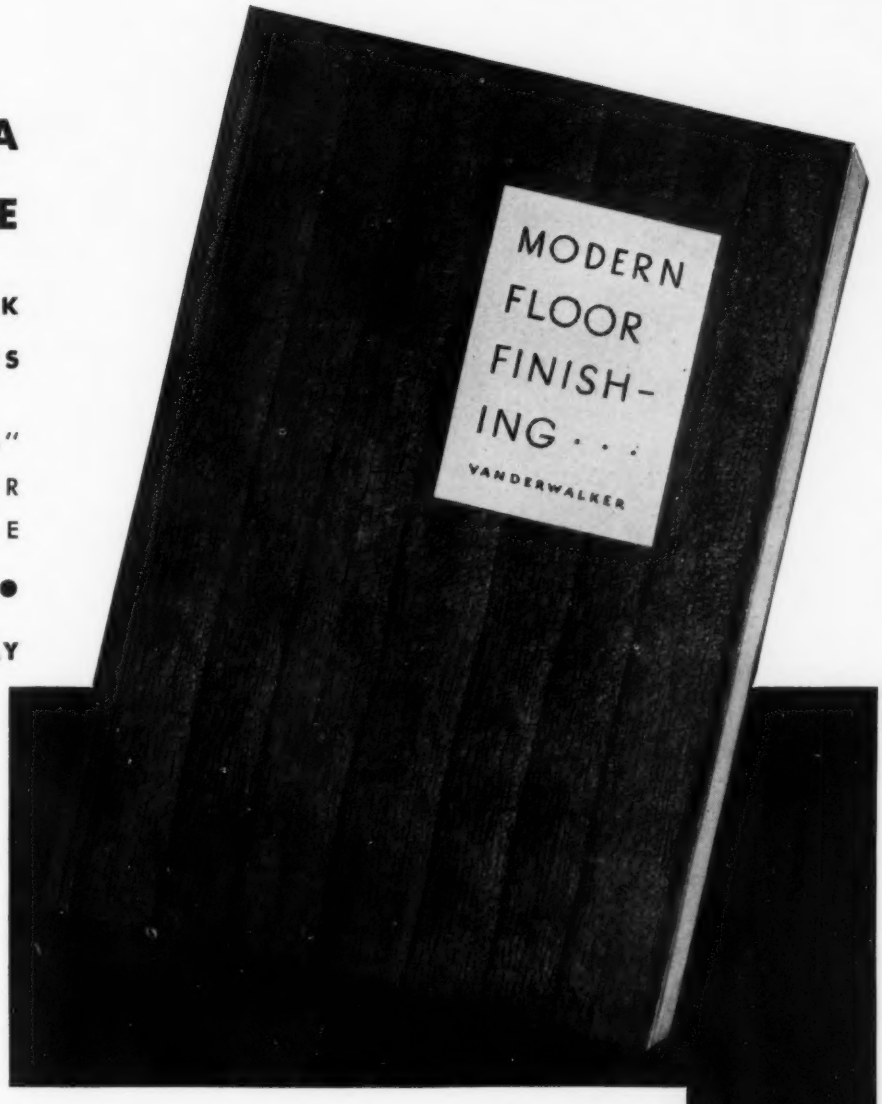

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five-year periods to determine if any definite trends could be established. These averages are presented in Table II and are represented by the dotted line on the graph. It is interesting to note that the weighted cost is highest for the five-year period immediately preceding the war, a period when costs are generally considered to have been low. The war period represents the lowest weighted cost. In general, the weighted cost shows no definite increase over the twenty-seven-year period, that is to say, when the increased length of the school term and the variations in the purchasing power of the dollar are accounted for, there has been no definite increase in the cost per pupil over the period studied.

How Training Affects Teachers' Salaries

A large factor in educational costs is the teacher salary item. This item is undoubtedly affected by the caliber of the teaching staff. It costs more to maintain a staff of well trained teachers than it does to maintain a staff of poorly trained teachers. Consequently, it is reasonable to believe that the general increase in the amount and quality of teacher training during the last quarter century has increased educational costs insofar as teachers' salaries are concerned. The teachers of the Glendale Grammar School have had an average of more than three and one-half years of training above high school. Just what the status of the teachers with respect to educational training was fifteen years ago is not definitely known, but it is safe to say that the present staff is much better trained.

Since a large part of current educational cost is represented by the salary of teachers, the number of pupils per teacher, or the staff-pupil ratio, has a direct effect on the cost. The ratio was figured for each year of the twenty-seven-year period. The figures are presented in Table III. It is not possible to say that there has been any definite trend with respect to the staff-pupil ratio over the period. The lowest ratio of teachers to pupils, however, occurs in the first five-year period, when the weighted cost per pupil was likewise lowest. Then, too, the staff-pupil ratio has not varied enough to justify a statement that it has been much more of a factor at one time than another, with the exception of a few years when the ratio was unusually high.

During the last quarter century, the curriculum in the elementary schools of Glendale has undergone many modifications. Manual training, home economics, music and health education may be mentioned as among the costly additions to the course of study within the period of time covered by this study. How much effect this had on the cost per pupil cannot be definitely shown, but it is certain that the general effect has been to increase rather than decrease costs. It is presumed, of course, that these additions represent an improvement in educational service.

Within certain limits, the effect of increasing the size of the group for educational purposes tends to decrease the cost per pupil. What the relation between the cost and size of the group is cannot be definitely determined. As the size of the group increases the tendency is to increase the educational service rather than decrease the cost per pupil. It would be impossible to render the same service to a group of sixty-four pupils, the number in average daily attendance in 1904-05, that is given to a group of 983 pupils, the average daily attendance for 1930-31, without materially increasing the cost per pupil. To have special teachers of manual training, music, health education and other similar subjects would be prohibitive in cost, but the services of such special teachers can be obtained for a larger group at a cost that is not prohibitive.

School administrators are facing the opening of a new school year. Certain limits have already been set for the spending of school funds during the current year. The professional administrator however will ever be on the alert to see that the expenditure of school funds pays dividends to the school and to the community in terms of more and better school service.

A Well Planned School Plant —A Necessity

Next to a well trained teacher, a modern and adequately equipped school plant is necessary for the efficient operation of the school, according to *State School Facts,* published by the North Carolina Department of Education.

The schoolhouse should meet the standards of modern school buildings, the article says. There should be an adequate number of classrooms of proper size, properly lighted, properly heated and well ventilated to meet the needs of the number of children in attendance at the school. A seat of suitable size should be provided for every child in attendance, and adequate blackboard facilities, cloakroom space and library rooms and shelving should be included as a part of its proper equipment. Sanitary water supply equipment should be installed, including drinking, lavatory and toilet facilities. The school grounds should be beautified, planted with grass, flowers and shrubs, and kept in good condition.

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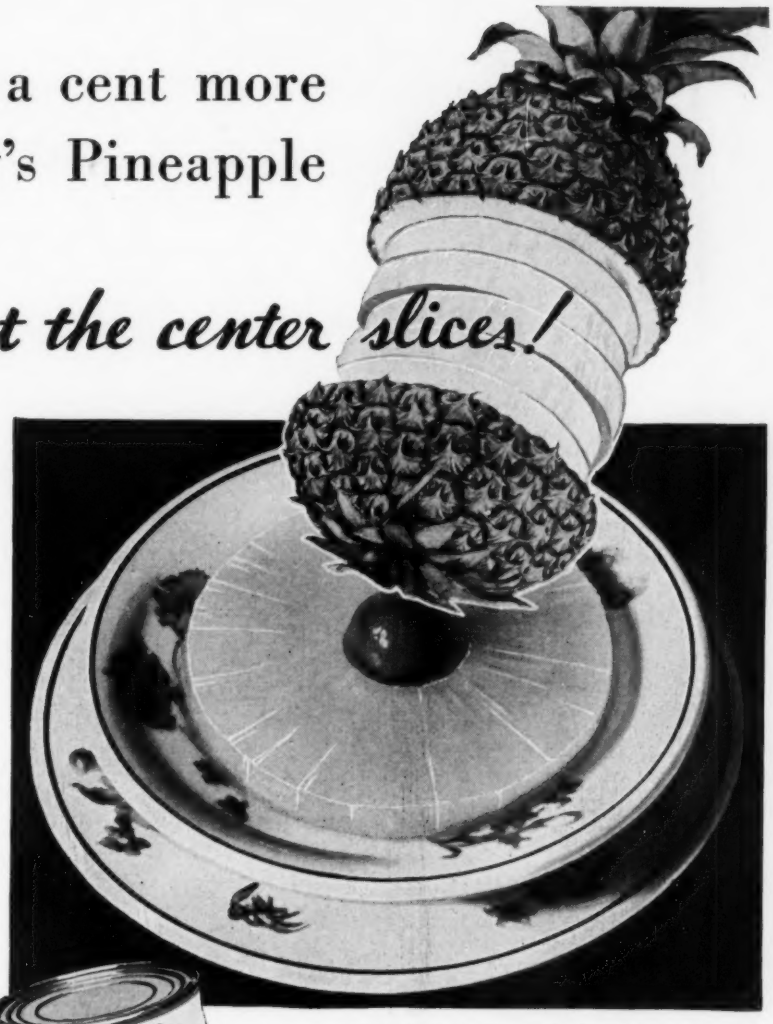


RICHER flavor, evener texture and form and color. That's what *center slices* give you!

And *just the center slices* are what you get in Libby's Hawaiian Pineapple, now. Only the choicest slices—selected with special care from "the finest pineapple ever grown."

Indeed *center slices* are so perfect that they must be chosen from two or three whole pineapples, to fill a single can!

Center slices provide all the healthful properties, for which pineapple is famous and which growing children need. The A, B and C vitamins, fruit sugar and mineral salts.

The amazing thing too is that Libby's *center slices*—with all the irresistible tang and aroma of sun-ripened fruit—cost not a cent more than ordinary pineapple!

Now you can serve the finest pineapple, Libby's *center slice* Pineapple, frequently and economically. So order it, today—and remember to try the other two delicious styles, Libby's Crushed and Tidbits.

Also, be sure to send for a *free* set of Libby's special recipe cards, by Mary Hale Martin—new ideas for pineapple dishes!

Libby's Pineapple Natural

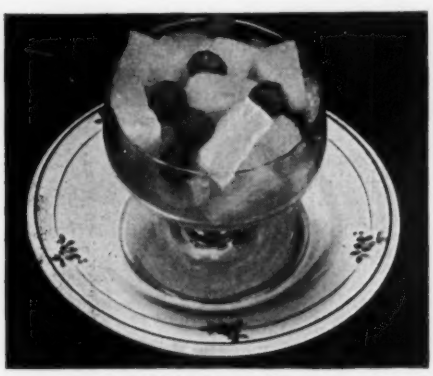
One of the most popular ways is to serve Libby's *center slice* Pineapple plain, in its own rich, tangy syrup, just as it comes from the can. This is the syrup that's *made from the natural pineapple juice* with only a little pure cane sugar added.

Pineapple Tart Salad

With well flavored lemon gelatine, mix equal parts Libby's Crushed Pineapple, grapefruit, and half that amount of grated carrot. Chill. Serve with pineapple-flavored dressing.

Sliced Pineapple San Salvador

Arrange banana slices and half green cherries on Libby's *center slice* Pineapple. Garnish with sweetened whipped cream, tinted pink and flavored with raspberry or strawberry. Serve well chilled.



Fruit Cup, Libby

Mix Libby's Pineapple Tidbits with orange sections and raspberries (fresh or canned). Sprinkle with sugar, and chill thoroughly before serving.

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Please send me a FREE set of Libby's special recipe cards, by Mary Hale Martin—the dietetic expert.

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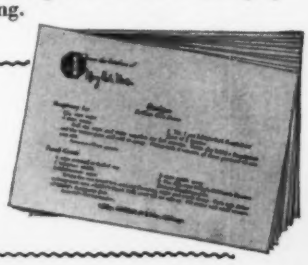


News of the Month

New School Construction Aids Unemployed in Boston

This summer has seen the employment of more than 1,000 men in building new schoolhouses and in repairing school buildings in Boston. Practically every school building in the city has been repaired or touched up in some way.

Seven new schoolhouses are in the process of construction and it is expected that four of these will be ready for use by the time the fall term opens. Approximately $2,000,000 worth of construction work is expected to be continued into the fall and winter.

According to Louis K. Rourke, superintendent of construction, the plumbing and heating apparatus of the city should be completely modernized by next year.

Office of Education Appoints Radio Specialist

Recognition of the growing importance of education by radio has brought about the creation of the position of radio specialist in the Office of Education, to be filled by Cline M. Koon, assistant director, Ohio School of the Air, according to a recent announcement.

The newly created office was authorized as a result of many recommendations which stressed the need of such a section in the Office of Education.

Duties of the radio specialist will be to initiate and conduct research studies of radio as an educational agency; to organize and maintain an informational and advisory service to schools and other agencies interested in the field of education by radio; to become familiar with college and university extension work so that the part radio as a tool may take in this field may be evaluated; to prepare material for publication on phases of education by radio.

Mr. Koon was graduated from West Virginia University in 1915 with the degree of Bachelor of Science, and received his A.M. degree from Teachers College, Columbia University, three years later. For nine years he was principal of high schools in West Virginia.

The newly appointed radio specialist, through his affiliation with the successful Ohio School of the Air, has made many contacts in the radio field which will be valuable to him in conducting this phase of educational activity in the Office of Education. He assisted in directing educational broadcasts which are now heard regularly in approximately 8,000 schoolrooms.

California Will Educate Children of War Dead

Operation of the act passed by the last California legislature, providing a fund through which dependents of veterans who were killed in action or died in service during the World War can continue their education, began on August 16, according to George M. Stout, secretary, Veterans' Welfare Board. The board is in charge of the administration of the act.

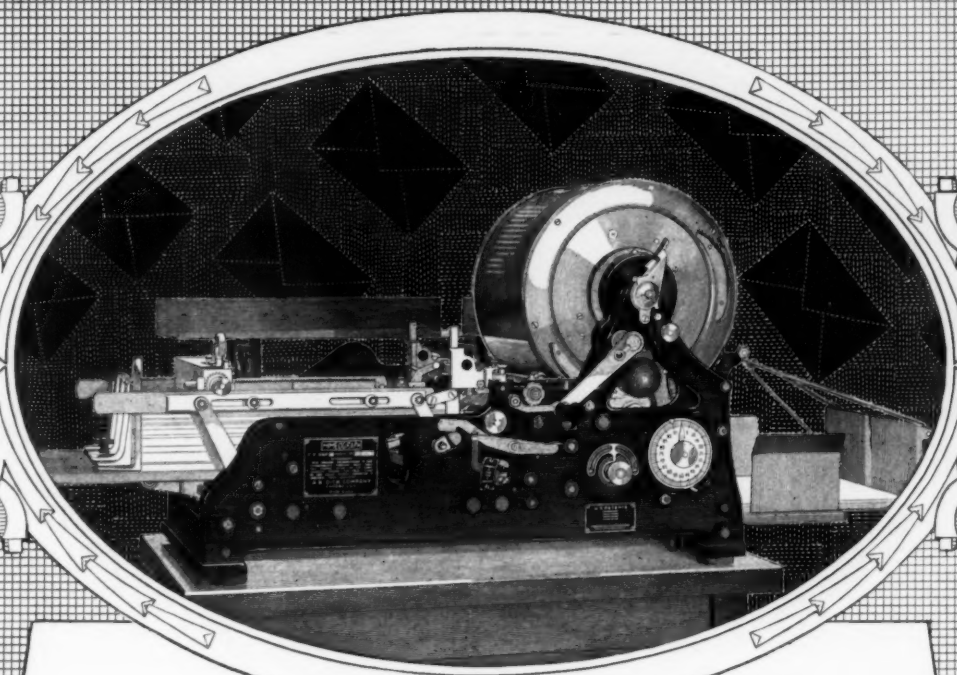
The act provides that applicants for educational aid must be over sixteen and not more than twenty-one years of age, must be children of deceased veterans and must have resided in the state for five years previous to filing application.

The Veterans' Welfare Board may give aid in individual cases up to $50 a month, with a maximum of $450 a year. This money is to be provided for tuition, book supplies and living expenses in public or semipublic educational institutions.

Los Angeles School Board to Spend $4,000,000

That approximately $4,000,000 is represented in expenditures of the Los Angeles Board of Education for new schools or additions to present buildings during the past year and in plans under way for the construction of other units before the end of the present year is shown by the report of William A. Sheldon, secretary of the board.

The present building program is designed to relieve the overcrowded conditions in many of the schools, to modernize other units and to replace obsolete buildings.



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News of the Month (Cont'd)

Teachers Urged to Take Courses in Visual Instruction

The department of visual instruction, National Education Association, earnestly recommends that a course in visual and other sensory aids in teaching be required of all persons preparing for the profession of teaching and that teacher training institutions in every state be requested to organize and offer such courses beginning with the scholastic year, 1931-32, in a resolution offered by the department at the N. E. A. convention in Los Angeles.

At the meetings of the department, considerable attention was given to the necessity of training teachers now in service, also teachers in training, in the use of visual aids. The resolution was the result of these discussions.

Ohio School of the Air Survives Legislative Ax

"Radio education in Ohio recently passed through a crisis," says B. H. Barrow, director, Ohio School of the Air. "The Ohio legislature faced with the task of cutting the state budget 25 per cent made a shambles of many departments of government. Every position in the state administration was under challenge, not once, but many times.

"And through it all, radio, the baby, fought for his life. Some there were who said that education by radio could wait two years, that it could be put in a basket and left on the doorstep of the radio stations, that the youngest departments should be the first to die. Fourteen times the infant of the educational system ran the gauntlet of finance committees on the floors of the two houses and in conference. Lastly, it knelt at the feet of the governor whose blue pencil might have spelled death."

"It was the listeners who came to our aid," says Dr. J. L. Clifton, former director of education. "Teachers by the hundreds and home listeners by the thousands all demanded the continuance of education by radio.

"The school executors stressed the unusual economy of school broadcasts, parent-teacher associations told of the hundreds of buildings they had equipped and many others now being equipped, so that 50,000 pupils could be able to benefit by the programs to be broadcast this fall and winter.

"And the Ohio School of the Air came through alive. Though lacking adequate funds for two years of broadcasting, it appropriated some $26,000 which provided a small staff of workers who expect to continue it through the aid of organizations such as the Ohio Education Association, the Parent-Teacher Association, the Ohio Federation of Women's Clubs, Ohio State University and the University of Cincinnati and other agencies."

Iowa Committee Discusses the Economic Situation

In cooperation with the committee on unemployment appointed by President Hoover, Agnes Samuelson, superintendent of public instruction, Des Moines, Iowa, called a meeting of the representatives of institutions of higher education in Iowa to convene August 21. Representatives of thirty institutions were present. After a discussion of the problems involved in the widespread unemployment throughout the country and in the difficulties found by many young persons in continuing the education that they need to equip them for their best service, a committee was appointed to draw up a statement in regard to this problem. Among the points emphasized in the report of this committee are the following:

1. That the economic situation in general calls for continued schooling in the case of students who would otherwise face an already overcrowded labor market.

2. That scholarships and loan funds, particularly for advanced students, be encouraged.

3. That well-to-do residents of the state should sponsor when possible the education of deserving young men and women of their home communities in any of the Iowa colleges or universities.

4. That service clubs, alumni and committee organizations within communities should provide funds for their own young people, who should select their own Iowa institutions.

5. That we offer our services to the radio stations and newspapers of the state to cooperate in this enterprise in broadcasting the opportunities of the present situation and appealing to the people of Iowa to help in the solution of this problem.

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WHATEVER your gym-suit need, there is a practical, comfortable, economical WINNER suit to meet it.

Years of experience in the manufacture of athletic clothes for girls have resulted in certain styles of PROVEN practical merit. Years of effort to reduce manufacturing costs and improve the suits have resulted in definite savings to students and their parents.

Principals, Superintendents and Physical Directors who have the best interests of their pupils at heart, will see the folly of insisting upon specifications having little or no importance...which cannot help but slow up production, increase the cost to the student...and confuse the merchant...without adding in any way to the comfort, smartness or wearing qualities of the suits.

Before you decide on athletic clothes for your classes, send for samples of "Winner" suits...have them tried on... examine the quality...and compare the value! Then you will understand why leading schools all over the country are demanding standard "Winner" suits!

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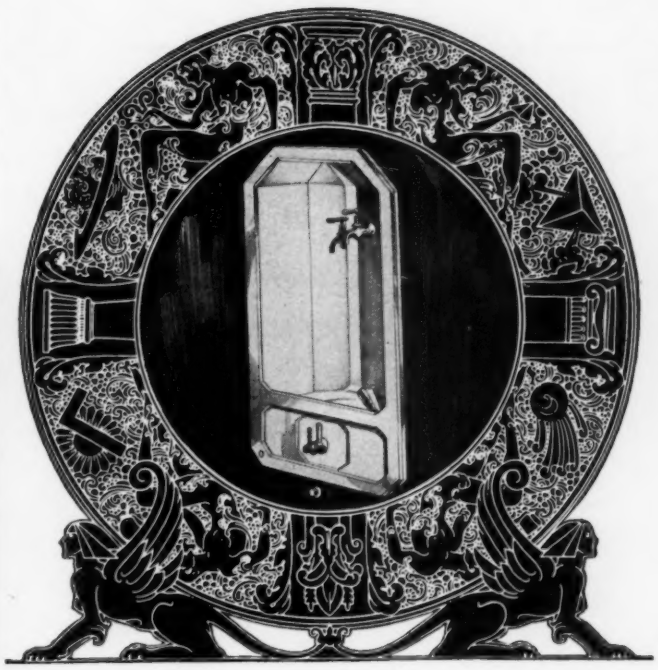

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In the Educational Field

E. J. ARNOLD, superintendent of schools, Bremen, Ohio, has resigned to accept the superintendency at Nelsonville, Ohio.

THE REV. THOMAS E. STRITCH, S. J., is the new superintendent of the parochial schools, New Orleans. He succeeds the REV. FLORIAN SULLIVAN, who has recently been made editor of *America*, a Catholic weekly.

T. L. EVERETT, superintendent of the Waresboro Consolidated School, Waresboro, Ga., has been elected superintendent, Ware County schools.

REED R. RUSSELL, a former teacher in the schools at Milton and Pulaski, Iowa, has accepted the superintendency of the Kingfisher, Okla., schools.

G. LLOYD PALMER, superintendent of schools, Frederick County, Maryland, for the last eighteen years, died recently.

CHARLES C. MADEIRA has been elected to succeed JOHN C. GROOME as superintendent of schools, Gloucester City, N. J.

DR. LEON A. NEULEN, New York City, is the newly elected superintendent of schools, Camden, N. J., succeeding DR. JAMES E. BRYAN, who resigned on September 1 after directing the Camden schools for thirty-two years.

ALBERT C. SHUCK is the newly appointed superintendent of schools, Salem County, New Jersey. MR. SHUCK succeeds HENRY C. DIXON who died recently.

STANLEY H. LEEKE has resigned as recreation superintendent, Hamden, Conn., to become director of athletics, St. Stephen's College, Annandale-on-Hudson, N. Y.

CHARLES R. THIBADEAU has been elected superintendent of schools, Marion, Mass.

VERNON L. KEEHNER is the newly appointed superintendent of schools, Norborne, Mo.

D. S. DOMER, the former superintendent of the Randalia, Iowa, schools, will head the schools at Spencer, S. D., for the coming year.

L. C. HALLEY has been elected superintendent of schools, Fulton, Ohio, to succeed R. D. HARRISON.

CLAUDE A. BRUNER, Washington Court House, Ohio, has been elected superintendent of schools, Mingo Junction, Ohio, succeeding F. A. GILMOUR, resigned.

HAROLD T. LOWE, superintendent of schools, North Providence, R. I., has been named to succeed DR. HERBERT W. LULL as superintendent of schools, Newport, R. I.

GORDON SOUTHWICK, Agosta, Ohio, will be the first superintendent of the newly consolidated township schools of Perry County, Ohio. The new $83,000 centralized school building is expected to be completed in time for the opening of the fall term.

DR. J. FREEMAN GUY has been appointed first associate superintendent of schools, Pittsburgh.

M. P. STONE, formerly state superintendent of education for California, died recently.

CRAIG P. MINEAR, superintendent of schools, Winfield, Iowa, will serve in a similar capacity at Georgetown, Colo., this year.

FRANCIS LOUIS BAILEY, Montpelier, Vt., will succeed Clarence H. Dempsey as state commissioner of education of Vermont.

J. R. FISHER has been named superintendent of schools, Spade, Tex., succeeding B. M. HAYS, resigned.

HENRY OLSEN, superintendent of schools, Greenfield, Iowa, has accepted the position of vice-president, Buena Vista College, Storm Lake, Iowa.

Junior Red Cross in Philippines Sponsors Dental Program

The Junior Red Cross of the Philippines, with its membership of more than 1,000,000 school children, has been sponsoring a school dental program as its outstanding activity. During the school year 1929-30 part-time clinics were held in seventeen provinces and 103 dentists were employed, all qualified graduates of accredited dental schools who also had successfully completed two weeks of intensive training at the clinic in Manila and a two weeks' study of general Red Cross activities at the central Red Cross office. Lectures and demonstrations on dental technique are also given each year at a dental conference.

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Your School—
Its Construction and Equipment

A Department Conducted by CHESTER HART, B. Arch., Chicago

Flexibility in School Seating Equipment

The ideal of flexibility in school equipment, as in school buildings, is desirable because it may be possible to meet changed requirements due to new conditions or further research, without a complete demolition of the existing equipment or structure. Flexibility that does not impair the strength or service of materials is an ideal that is desired for school equipment. Seating equipment that is flexible, according to Dr. Henry Eastman Bennett, must retain the unvarying essentials that contribute to good posture and other ideals common to all good seating, while providing in accessories or interchangeable parts those distinctive features that adapt the unit for the varying requirements of different grades.

In the recent developments of the American Seating Co., 14 East Jackson Boulevard, Chicago, this ideal of flexibility in the design of seating equipment has been foremost and has made possible many combinations of interchangeable parts. The most obvious and radical changes are in the desk tops. On any of the bases there may be provided "study tops" (without book boxes), or book boxes with lifting lids or open fronts. In the same style and interchangeable with these book boxes is a desk top for housing a portable typewriter for classroom use. When closed, this box is practically indistinguishable from the standard book box, and has the same desk surface available for regular class work. With a movement like lifting a lid, the entire box turns back, leaving the typewriter ready for use. This type of desk may have an important influence in the wider extension of typewriter instruction.

The ideal of flexibility is further carried out in the completely interchangeable combinations in which the several movable and stationary bases

Daisy is a nice dog
She goes To school
She cries loud
Daisy is Mary's dog
She is very little
Daisy has black and brown
Spots on his back
Mary feeds Daisy meat and bones

Movable desks and seats can be effectively adjusted for group work.

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may be combined with seats having various styles of backs that embody the established posture principles. Likewise a variety of desk surfaces and boxes with the standard slope and spacing may be interchanged on the bases. Separate units, movable or stationary, of these same seats and desk tops may be used in numerous combinations. Large and small tables of various heights have the same type of construction, to harmonize with the seating design. Chairs also are available in this type of design for teachers' use.

Another desirable feature is an adjustable, telescoping reading easel that holds a book in the ideal position for reading. The easel may be adjusted to increase or decrease its distance from the eyes and may be completely folded out of the way into the book box when not in use. This equipment is of particular importance for sight conservation groups, and since it ensures correct posture as well as correct vision in reading, its use may be more widely extended. Adjustable devices for the support of the feet and legs of crippled children are important accessories.

The most striking innovation in this new development is the radically increased slope given to the writing surface of the desk tops. This departure will inevitably attract attention and call forth both criticism and commendation from educators. Regardless of a person's attitude on the subject of top slope, his preference may be obtained in the flexibility that is carried out in the lifting lid desk by the use of a leveling device. This device may be adjusted instantly to hold the lid in a rigid, perfectly level position, or at an intermediate slope. For many types of class work, particularly in the primary grades, a level top is almost a necessity, whereas a top that is permanently level sacrifices the essential principles of correct posture and vision during periods of writing and book study. When the top is set level a large table may be improvised for group activity by placing the individual tables in groups.

Why Desk Tops Should Slope

Anent the new slope of the writing surface on these desks, Doctor Bennett is quoted as follows with regard to the reasons for this change:

"The first essential of good posture is a vertical position of the pelvis which mechanically necessitates a forward curving of the lumbar vertebrae and a backward and downward recession of the shoulders when the muscles are relaxed. Seat and back designs have been developed which are favorable for this posture. The posture values of such a seat, however, are largely defeated by a flat or nearly flat writing surface, since on such a surface it is necessary either for the book or writing hand to be so far from the eye as to necessitate leaning forward to get a clear vision; or else if the top is high enough for correct visual distance the pupil cannot write except by extending the elbows outward and forward upon the edge of the desk. In either of these positions the poise of the body weight upon the spine is sacrificed, and the characteristic stooped posture results.

"By means of the increased slope of the desk top the elbows may be kept well down and close to the sides, and the proper poise and posture of the body thus retained, while the book and writing hands on the desk top are brought up to a height and in an angle with the line of vision which secures visual clearness without sacrifice of posture. The foreshortening of written and printed characters due to the sharp angles between the line of vision and a flat writing surface is avoided by means of the sloping top, and eyestrain is greatly reduced by the close approach of this vision angle to a right angle. Furthermore, at this slope, the illumination of the book or paper is primarily by the light that comes from over the shoulder, thus obviating glare and ensuring clear vision.

The Correct Depth of Book Boxes

"The depth of book boxes was purposely reduced some years ago because measurements proved that a large percentage of pupils did not have space enough between the thighs and the elbows for the then prevailing depth of desk boxes. Because of this, they were compelled to raise the elbows and sacrifice good posture. In the new form of box the same decreased depth of box is retained at the near edge and, because of the slope, the position of the hands is raised while that of the elbows is one or two inches lower than the near edge of the desk. In adjusting the desk, therefore, the bottom of it is actually raised one or two inches higher than formerly, thus increasing the knee clearance by that much. Finally, by means of this slope, the capacity of the box for book storage is increased nearly 50 per cent."

The ideal of flexibility has been applied to those elements of form and proportion which are regarded as best from the standpoint of posture and hygienics. The benefits of flexibility are to provide the widest possible diversity in types of desks and seats to suit all the varying requirements of different school uses and to meet the diversity of individual preferences and opinions as far as the fundamental principles of seating will permit. With whatever success these new developments may meet, they are significant in educational progress and important to educators because of the influence they will have on the designing of future school equipment.

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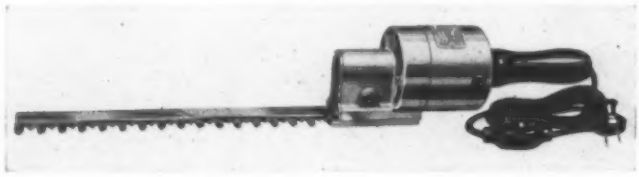
A New Electric Hedge Trimmer for the School Gardener

The school that has been landscaped with beautiful lawns, hedges and trees is fortunate only when these are cared for properly. Trimming a hedge by hand represents a long and arduous task, and the janitor has little enough time to devote to his daily cleaning without adding this occasional but seemingly endless chore.

A new electric hedge trimmer that needs only to be plugged into an ordinary light socket minimizes



the time and labor necessary for cutting hedges. Where hedges are extensive or far removed from the usual electric outlets, it might be advisable as well as economical to provide permanent wiring to a few selected locations. The machine is small and light enough to be carried easily, even with a considerable length of extension cord. It consists of an enclosed motor with handles attached, and a miniature reaper blade. The claim that the Electrimmer, made by Skilsaw, Inc., 3310 Elston Ave., Chicago, will cut hedges three times faster than by ordinary methods sounds reasonable, and the ease with which it can be manipulated should assure greater accuracy for the janitor in cutting a straight hedge.

A Sawdust Aggregate for Paving Playgrounds

A new type of playground paving has been tried by the school superintendent of Alhambra, Calif. The paving material is similar to the macadam used in street paving except that a good shaving and sawdust aggregate is used for the finished surface instead of crushed rock.

A cold asphalt emulsion, Bitumuls H. P. M., manufactured by the American Bitumuls Company, 200 Bush St., San Francisco, and stone chips form the subsurface, and Bitumals mixed with spruce sawdust form the finished surface. Bitumals and sawdust are mixed in a concrete mixer and applied about three-fourths of an inch thick. The following day it is rolled with a light power roller and is then ready for use. When finished, the surface is similar in texture to a coarse linoleum, and while hard enough not to indent appreciably, it has considerable resilience.

Another sawdust or wood fiber product that has a cementlike binder is Nu-Crete, manufactured by the Luse-Stevenson Co., 228 North La Salle St., Chicago. It is applied like cement and given a troweled finish, or it may be sanded and waxed. Its natural color is buff, but pigments may be added to give a variety of colors. It has several qualities that should make it a useful flooring material in schools. The toughness, nonslip and wearing qualities should recommend it for school corridors and stairs. It could be used in school gymnasiums that are on the ground because dampness does not cause it to swell, and it has some resilient qualities.

The fact that this material has approximately the same coefficient of expansion as concrete, is moistureproof and is also hard wearing might recommend its use in roof playgrounds. Other places where this type of flooring could be used are kitchens and shops. Nu-Crete is a specialized material and not a general floor finish.

A Linoleum Covering That May Be Used on Damp Floors

The use of burlap backed linoleum has been limited to floors that have a free circulation of air beneath them. An absolutely moistureproof subfloor was needed for the laying of this linoleum because any dampness coming through to the under surface of the linoleum loosened the cementing material and caused the linoleum to swell and buckle. This meant that no basement floor or first floor resting upon the ground could have linoleum cemented directly to the concrete slab. If linoleum was desired on these floors it was necessary to prepare a moistureproof subfloor that added considerably to the expense, so much so that it was not economical to install linoleum except on upper floors.

A new linoleum flooring material with an asphalt saturated felt backing, made by the Armstrong Cork Company, Lancaster, Pa., may be placed directly on the concrete slab regardless of location. Battleship Linoflor is three-sixteenths of an inch thick, brown in color, and consists of two layers, an asphalt felt backing keyed to a linoleum surface. The moisture resistant asphalt backing makes it possible to use Linoflor where dampness prohibits the use of an ordinary linoleum. Linoflor may be cemented directly to concrete slabs without the use of lining felt. With this new flooring it is possible to cover, economically and safely, every floor from basement to attic.